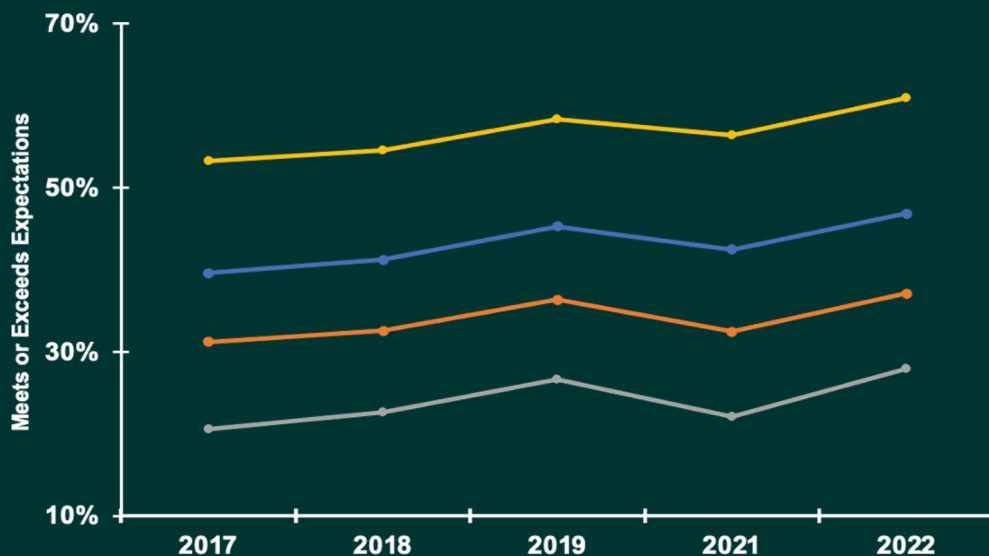




Wilson Consulting Services, LLC

A Comparative Analysis of South Carolina SC READY Tests Performance (2017–2022)

School Districts of Charleston, Georgetown, and Horry Counties



May 25, 2023

David C. Wilson

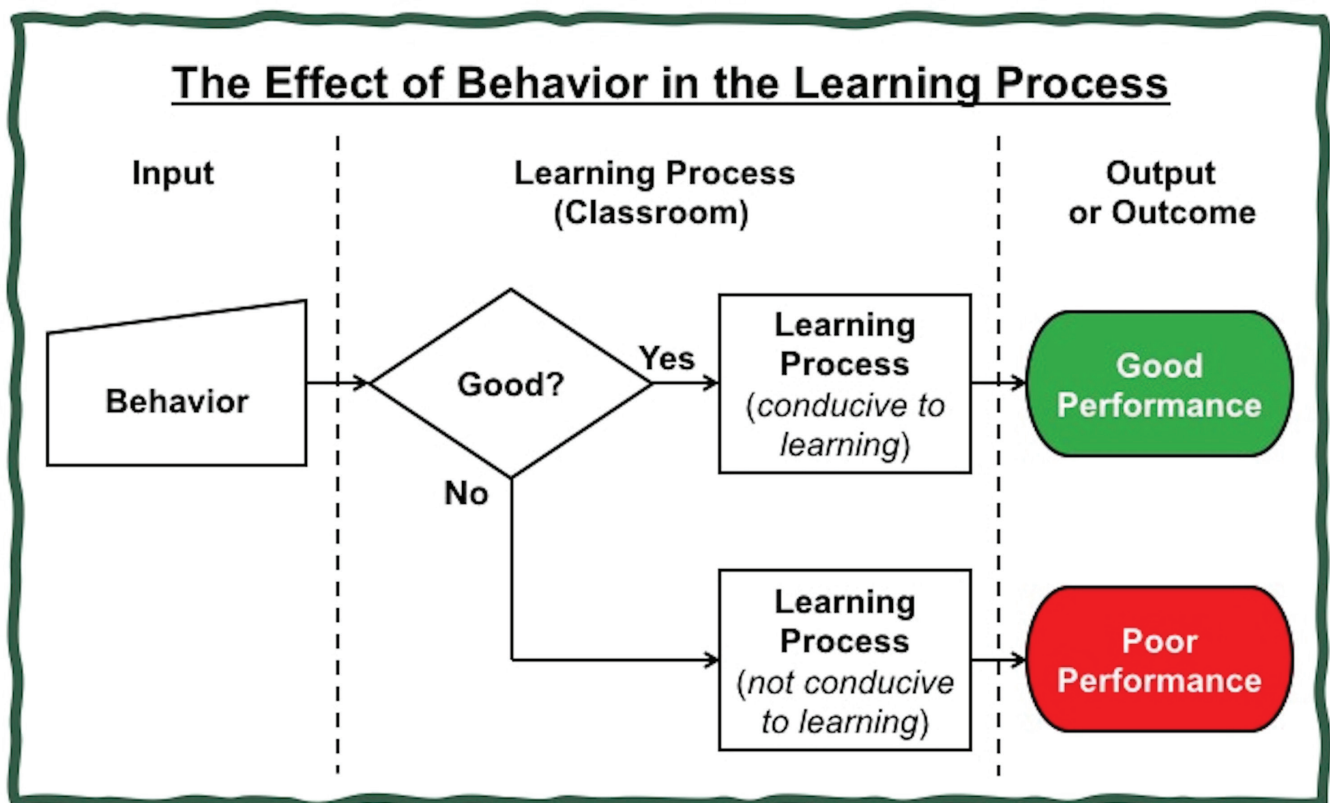
Founder / CEO
Conway, South Carolina



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“Without data, you are just one more person with an opinion.”

Our organization is committed to adhering to a robust statistical standard of care in all of our data analyses.



STEM = Σ (Science, Technology, Engineering, Mathematics)

Author's Comments



Dave Wilson

It has been about 53 years since South Carolina legally desegregated all public schools in 1970. Judging from this report, in the ensuing years after integration, the Black student seemed to be no better off academically—or were even worse as a group—than they were during the dual school system.

Speaking of the dual school system, my formal public schooling was in a two-room Rosenwald era school followed by two South Carolina equalization schools (elementary and high school). The equalization schools replaced the Rosenwald initiative era schools and were constructed not to educate Black children but to preserve segregation between Black and White children. This “preserved segregation” is factual and has been verified by the South Carolina Department of Archives and History (SCDAH). In collaboration with SCDAH, I authored the wording on the Chestnut Consolidated High School historical marker, and the words “preserved segregation” are engraved on the marker as a historical fact. The equalization schools were not equal to White schools because they were partially hollowed out on the inside with weak curricula.

Despite significant increases in resources (post segregation), such as special programs, teacher training, tutoring, technology, health care, and free/reduced cost breakfast and lunch, the performance gap between White and Black students stubbornly persists

in grades K–12. Black student performance on almost all benchmark tests throughout the nation has been hovering lower than the capability of students for a long time, and there is no indication of any significant improvement on the horizon.

The gap between White and Black students has been widely discussed but efforts to close it at the federal, state, and local levels have had little success. A group or society can realize true change only by making efforts from within their group. Therefore, change in the status quo will require interventions by parents, religious and community leaders, and others who are truly interested in educating children and not on waiting for some nebulously special program to come along and rescue Black children. These special programs do help a handful of Black children; however, these programs have made no appreciable difference to Black children as a group. In looking for a solution to behavior and performance improvement, the focus for additional help must be placed on parents and Black churches and their communities. Why? Because history tells us that Black churches have long been the center of communities, serving as school sites in the early years after the Civil War; taking up social welfare functions, such as providing for the indigent; and establishing schools, orphanages, and prison ministries. As a result, Black churches have fostered and built strong community organizations and provided spiritual and political leadership, particularly during the civil rights movement. Today, most Black children in the community have access to food and shelter;

therefore, the church community has the power to leverage the same level of energy it did in the past by nurturing the human mind. To that end, the church community has the structure to play a major role in helping parents set high expectations for their children and in helping children set high expectations for themselves to strive for excellence.

Although the performance for all students is relatively flat from 2017 to 2022, eighth grade Black students in Horry County Schools who met or exceeded expectations in SC READY math remained essentially the same from 2017 to 2022 at 19% and 17%, respectively. Charleston County School District shows a similar situation with the same group at 10.5% and 10.8%, respectively. Georgetown County School District shows 14.9% and 6.1%, respectively. These are serious deficiencies in one of the most important foundational subjects facing students on the eve of entering high school. There are other factors that can cause low performance, such as disability, limited English proficiency, and poverty. I examined these three factors and their influence on learning outcomes in Section III of this report.

Thank you for letting me share this important information to emphasize student performance with you.

Sincerely,



David C. Wilson
Founder / CEO

Executive Summary

This report profiled the SC READY benchmark test for public school students in grades three to eight for South Carolina as a whole, Charleston County School District (CCSD), Georgetown County School District (GCSD), and Horry County Schools (HCS). The data used to generate this report are from the South Carolina Department of Education (SCDE). This document summarizes the report with emphasis on the takeaways.

Takeaways

- The average percentage of students who took the SC READY test from the four entities listed above were disabled (14.1%), limited English proficient (8.9%), and pupils in poverty (61.7%). Of the four, CCSD experienced the lowest percentage of disabled (10.9%) and pupils in poverty (51.9%), whereas GCSD experienced the lowest percentage in limited English proficient students at 5.1%. See Figure 2.1 for the distribution of the four entities as follows: SC, CCSD, GCSD, and HCS.
- The average percentage difference in performance of students who took the SC READY test representing the four entities examined for this report were (a) disabled versus not disabled—English language arts (ELA) and math (130%); (b) limited English proficient versus non-limited English proficient—ELA and math (35.5%); and (c) pupils in poverty versus non-pupils in poverty—ELA and math (72.3%). See Figures 3.1 and 3.2, and Table 3.1 for a graphical analysis.
- The graphs in Section III, Figures 3.1–3.26, can be used to better understand the challenges with the overall SC READY performance depicted in Section IV, which highlights the difference in performance of disabled versus not disabled students, limited English proficient versus non-limited English proficient, and pupils in poverty versus non-pupils in poverty. Hence, unlike private K–12 schools, public schools have the responsibility of educating all demographic groups, not to mention the average number of pupils in poverty is greater than 60%.
- Of the past six years (2017–2022), the average percentage of students in South Carolina who met or exceeded expectations on the SC READY tests in ELA and math combined is as follows: South Carolina as a whole (42.1%), CCSD (48.8%), GCSD (36.9%), and HCS (48.6%).
- Of the past six years (2017–2022), the percentage of students by race/ethnicity in South Carolina who met or exceeded expectations on the SC READY tests in ELA and math combined is as follows: Hispanic (34.0%), Black (22.5%), and White (55.8%).
- Of the past six years (2017–2022), the percentage of students by race/ethnicity in CCSD who met or exceeded expectations on the SC READY tests in ELA and math combined is as follows: Hispanic (27.3%), Black (18.4%), and White (72.9%).
- Of the past six years (2017–2022), the percentage of students by race/ethnicity in GCSD who met or exceeded expectations on the SC READY tests in ELA and math combined is as follows: Hispanic (34.4%), Black (18.2%), and White (50.2%).
- Of the past six years (2017–2022), the percentage of students by race/ethnicity in HCS who met or exceeded expectations on the SC READY tests in ELA and math combined is as follows: Hispanic (39.8%), Black (26.2%), and White (59.2%).
- Of the past six years (2017–2022), Black students in HCS performed significantly better on the SC READY test (by 36%) than Black students in the CCSD and GCSD.

*The reference to South Carolina in this report means South Carolina as a whole.

Executive Summary, cont.

Takeaways, cont.

- Of the past six years (2017–2022), on average, Hispanic students in South Carolina as a whole performed better than Black students on the SC READY test (by about 40%).
- Of the past six years (2017–2022), on average, White students in HCS performed better than Black students on the SC READY test (by about 78%). In the same time period, Hispanic lagged White students by a significantly smaller gap than Black students (by about 40%).
- Of the past six years (2017–2022), in South Carolina as a whole, third grade to eighth grade SC READY performance test scores decreased for ELA and math by about 8% and 44%, respectively.
- All SC READY test scores shown in this report increase in performance from 2021 to 2022, however small. This is a good indication that students are beginning to bounce back from the impact of the COVID-19 pandemic.

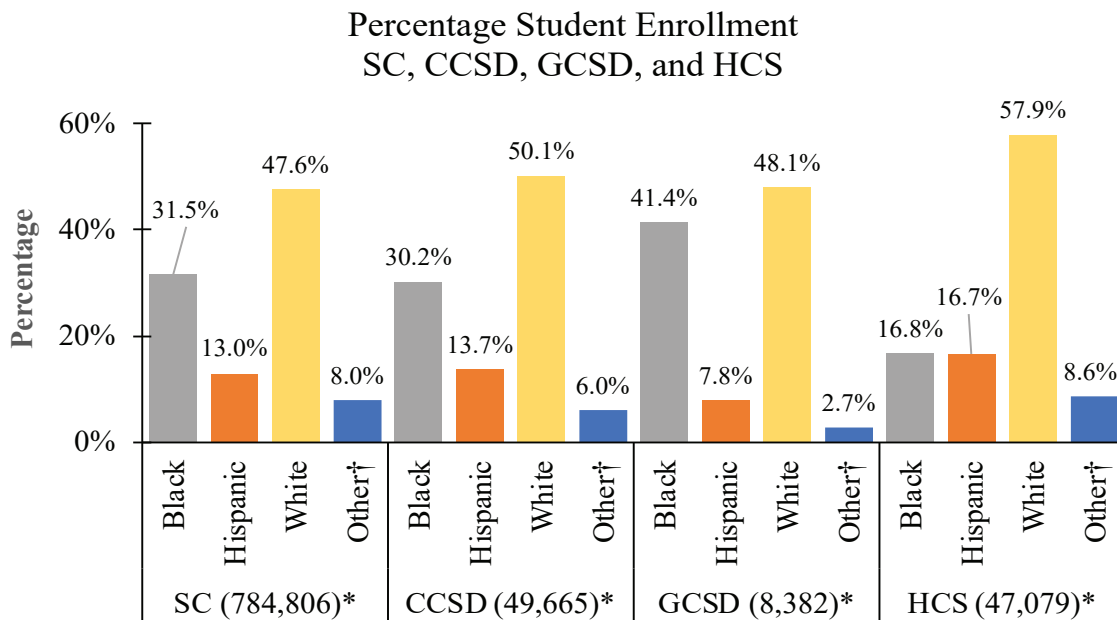


Figure E. Graphical Distribution of students by race/ethnic.

Source: SCDE—District headcount by gender, ethnic/race, and pupils in poverty

*The number in parenthesis with each entity is active student enrollment extraction from 135th day, April 2023.

†Other includes: Asian, Hawaiian or Other Pacific Islander, Two or More Races, and American Indian.

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Link to this report:

https://www.wilsonconsultingservices.net/wcs_scready_2017_2022.pdf

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†Years 2017 to 2022 are combined as an average.

‡Grades 3 and 8 were graphically analyzed for grade 3 and grade 8, separate graphs.

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I. Introduction

The author’s objective is to examine the South Carolina and Career-Ready Assessments (SC READY) benchmark results from 2017 to 2022 for South Carolina as a whole, CCSD, GCSD, and Horry County Schools. The SC READY benchmark tests are foundational and consist of ELA and math. South Carolina Department of Education (SCDE) administers the test in the spring annually to students in grades three through eight.

This report takes a binary approach to the SC READY benchmark measurements; the student either met or did not meet the benchmark standard for readiness. The analyses do not break down the various other levels, such as approaching expectations and economic factors; thus, the analyses reflect the percentage of students scoring the minimum and above or those who did not score the minimum. The analyses in this report are illustrated with tables and graphs as well as in narrative form.

The report examines the benchmarks of the two US historical demographic groups and the Hispanic demographic. The three racial/ethnic demographic examined are White, Black (or African American), and Hispanic. Although females, males, Asians, two or more races, Native Hawaiian or other Pacific Islanders, and American Indian or Alaskan Native measurements are included in SCDE raw data spreadsheet, only the three race/ethnicity demographics are analyzed in this report. However, the total number of students tested at the state and school districts levels are included in the total and is used in the denominator to compute the percentage of the three racial/ethnic demographics.

Section II—Depicts the following demographics: (a) disabled, (b) limited English proficient, and (c) pupils in poverty. The graphs and narrative in this section depict the percentage of each group in these demographics who were tested along with all students.

Section III—Depicts the three demographic groups by showing comparative analysis performance between the disabled¹ and not disabled;² limited English proficient³ and non-English proficient,⁴ and pupils in poverty⁵ and non-pupils in poverty.⁶ Note that these three groups and the other groups were reported by SCDE in a binomial distribution format, for example, grades 3–8 and grades 3–8, which allowed for binomial distribution for each grade level. If a student is classified with pupils in poverty, this student is classified under the pupils in poverty distribution such as grades 3–8 (six data points) and non-pupils in poverty grades 3–8 (six data points), which formed the completed binomial distribution that spanned 12 data points. Each set of acronyms shown in the footnote make up a binomial distribution 12 data points. Under this scenario a student is not counted twice; instead, they might show up in the SWD and NSWd distribution (6 + 6 data points) where the total count does not exceed the total number of test takers. Comment: In my view, the process the SCDE used here is a robust statistical standard of care.

Section IV—Depicts performance analysis of all students, including disabled and others for the average performance for the combined years (2017–2022) and for each discrete year (2017–2022). Additionally, the two US historical races and Hispanic performance are analyzed in this section.

Section V—Depicts the performance in a box and whisker plot format to show the reader how dispersed the performance is in terms of variation.

Section VI—Depicts the performance of third- and eighth-grade students for average performance for the combined years (2017–2022) and for each discrete year (2017–2022).

Estimated average SC READY test taker per year from 2017 to 2022.

- South Carolina—347,000
- Charleston County School District—22,000
- Georgetown County School District— 4,000
- Horry County Schools—21,000

¹ SWD = disabled student

² NSWd = not disabled student

³ LEP = limited English proficient

⁴ NLEP = non-LEP

⁵ PIP = pupils in poverty

⁶ NPIP = non-PIP



II. Percentage Share of Disabled, Limited English Proficient, and Pupils in Poverty

The graph in Figure 2.1 depicts the summary of three selected demographic groups. The purpose of Figures 2.2–2.5 was to show the six-year span with five data points for these demographic groups. As depicted in the graphs, pupils in poverty by far exceeds the disabled and limited English proficient groups. For example, in Figure 2.2, the year 2022 shows 61.9% pupils in poverty. Because these groups are binary, the not in poverty in 2022 is 38.1%, totaling 100%.

SC, CCSD, GCSD, HCS: Grades 3–8
Percentage of Students Disabled, Limited English Proficient, or Pupils in Poverty (2017–2022)

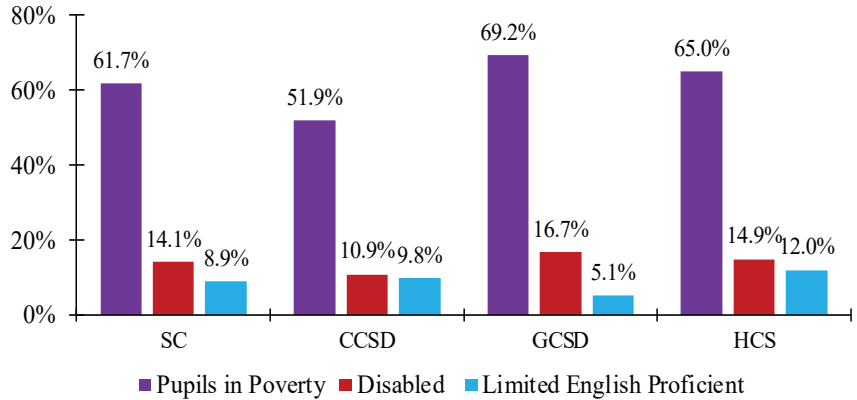


Figure 2.1 SC, CCSD, GCSD, and HCS: Percentage of SWD, LEP, and PIP tested.

South Carolina: Grades 3–8
Percentage of Students Disabled, Limited English Proficient, or Pupils in Poverty

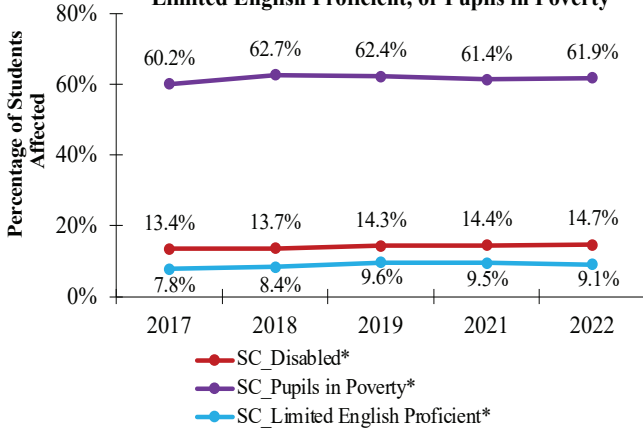


Figure 2.2 SC: Percentage of SWD, LEP, and PIP tested.

Charleston County School District: Grades 3–8
Percentage of Students Disabled, Limited English Proficient, or Pupils in Poverty

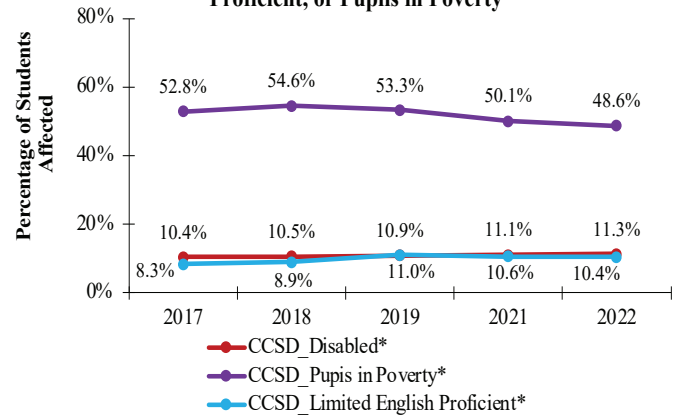


Figure 2.3 CCSD: Percentage of SWD, LEP, and PIP tested.

Georgetown County School District: Grades 3–8
Percentage of Students Disabled, Limited English Proficient, or Pupils in Poverty

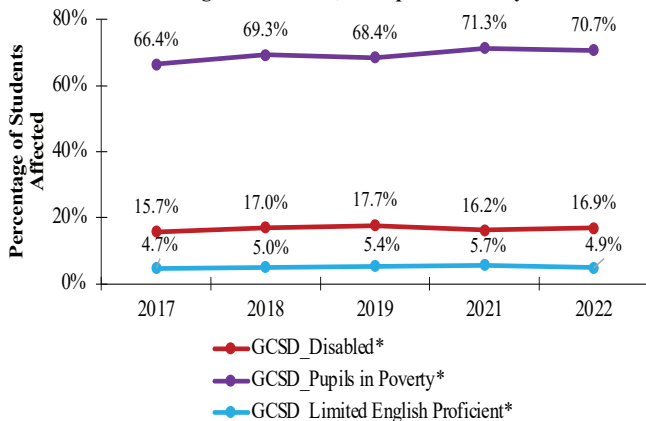


Figure 2.4 GCSD: Percentage of SWD, LEP, and PIP tested.

Horry County Schools: Grades 3–8
Percentage of Students Disabled, Limited English Proficient, or Pupils in Poverty

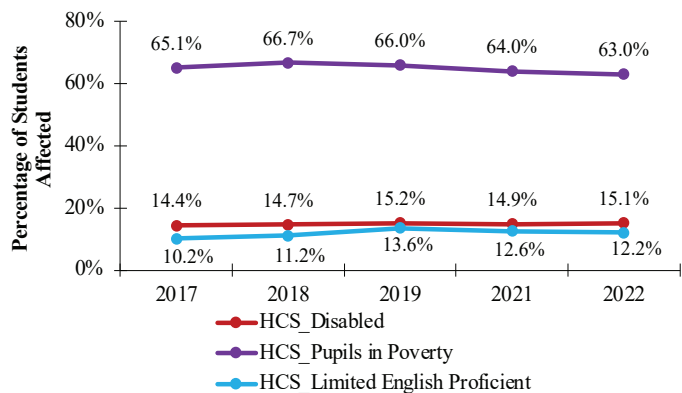


Figure 2.5 HCS: Percentage of SWD, LEP, and PIP tested.

Source: South Carolina Department of Education (SCDE)



III. Percentage Comparison of Disabled, Limited English Proficient, and Pupils in Poverty

The graphs in this section show a discernible difference between students affected with at least one limitation such as disabled and not disabled. The graphs in Figures 3.1 and 3.2 summarize the state and the three selected counties in comparative analysis graphs by matching, for example, disabled and not disabled students who met or exceeded expectations. The data for the graphs are shown in Table 3.

The graphs in Figures 3.3–3.26 are purposely constructed in a simple format to enable the reader to easily discern the performance for a selected year. The idea is to compare the performance of students with or without being disabled, limited English proficient, or being pupils in poverty. For example, in Figure 3.1, the average of the group of bars with pupils in poverty and non-pupils in poverty performance is 30.9% and 65.5%, respectively. NPIP student performed about 72% higher than PIP.

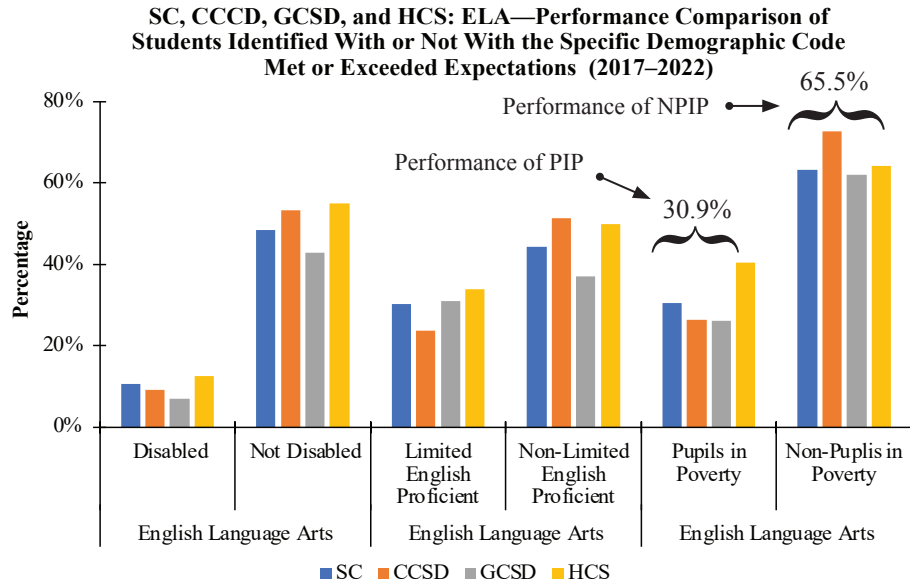


Figure 3.1 SC, CCDS, GCDS, and HCS: ELA performance comparison.

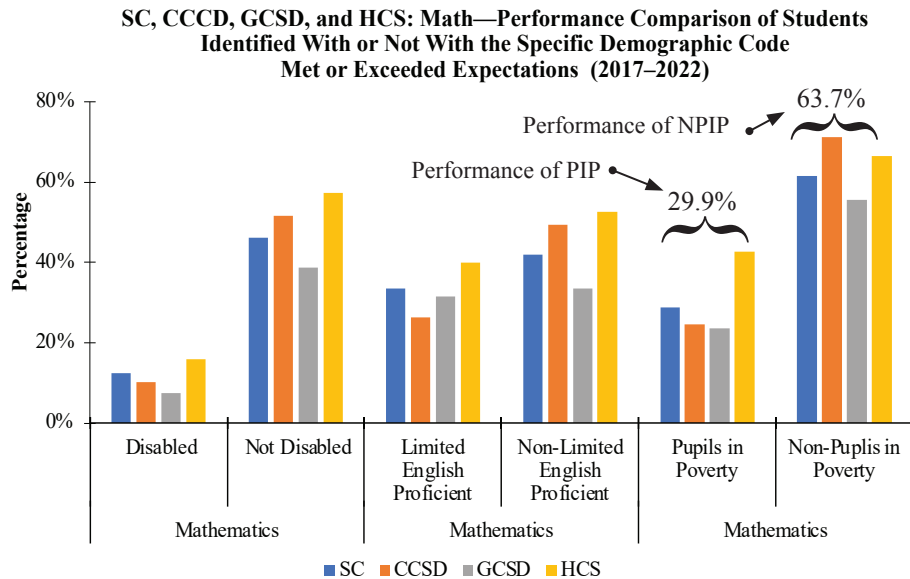


Figure 3.2 SC, CCDS, GCDS, and HCS: Math performance comparison.

Table 3.1 Data for SC, CCSD, GCSD, and HCS. To be associated with Figures 2.1 and 2.2.

Color Code for Figures 3.1 and 3.2	Entity	SWD ¹		NSWD ²		LEP ³		NLEP ⁴		PIP ⁵		NPIP ⁶	
	State and School Districts	ELA	Math	ELA	Math	ELA	Math	ELA	Math	ELA	Math	ELA	Math
	■	SC	10.7%	12.3%	48.4%	46.1%	30.4%	33.5%	44.3%	42.0%	30.6%	28.7%	63.3%
■	CCSD	9.3%	10.2%	53.4%	51.5%	23.8%	26.4%	51.3%	49.3%	26.4%	24.7%	72.6%	71.2%
■	GCSD	6.9%	7.5%	43.0%	38.6%	30.9%	31.5%	37.2%	33.5%	26.2%	23.5%	62.1%	55.6%
■	HCS	12.5%	15.8%	55.0%	57.3%	33.8%	40.0%	50.0%	52.6%	40.4%	42.8%	64.1%	66.6%
	Average	9.9%	11.5%	50.0%	48.4%	29.7%	32.8%	45.7%	44.3%	30.9%	29.9%	65.5%	63.7%

¹SWD=disabled student

³LEP=Limited English Proficient

⁵PIP=Pupils in Poverty

²NSWD=Not disabled students

⁴NLEP=Non-LEP

⁶NPIP=Non-PIP



III. Percentage Comparison of Disabled, Limited English Proficient, and Pupils in Poverty, cont.

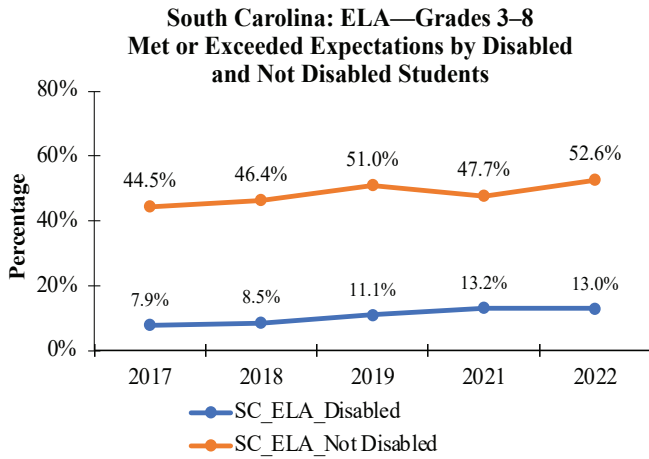


Figure 3.3 SC: ELA—performance of SWD v. NSWD.

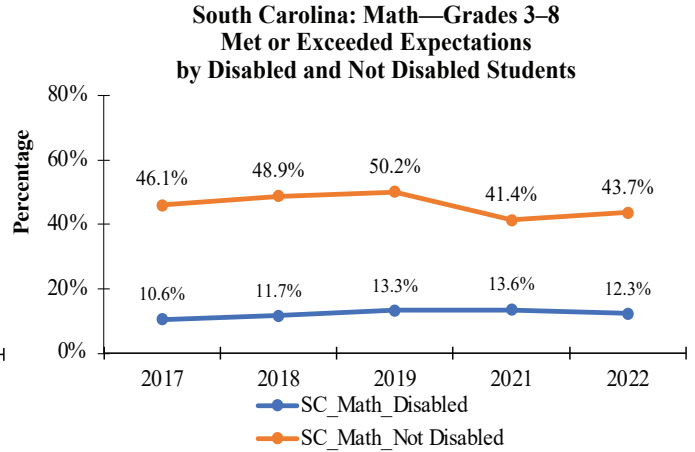


Figure 3.4 SC: Math— performance of SWD v. NSWD.

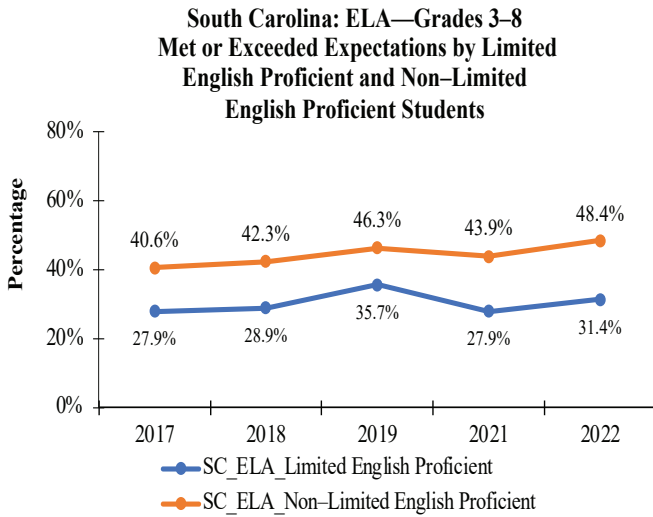


Figure 3.5 SC: ELA—performance of LEP v. NLEP.

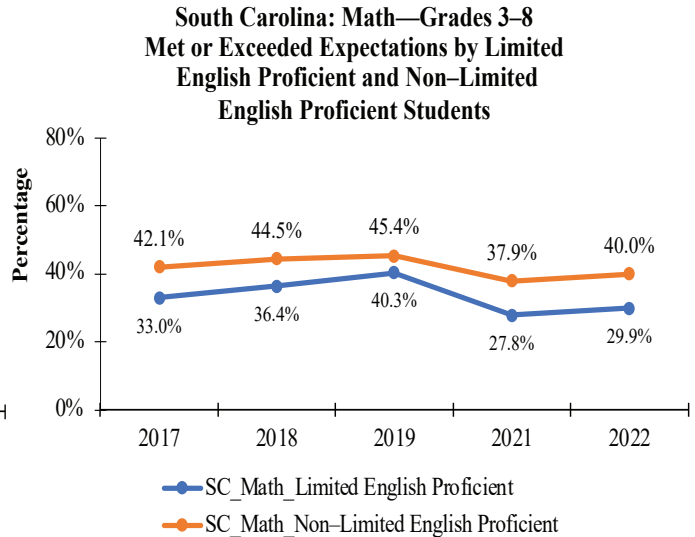


Figure 3.6 SC: Math— performance of LEP v. NLEP.

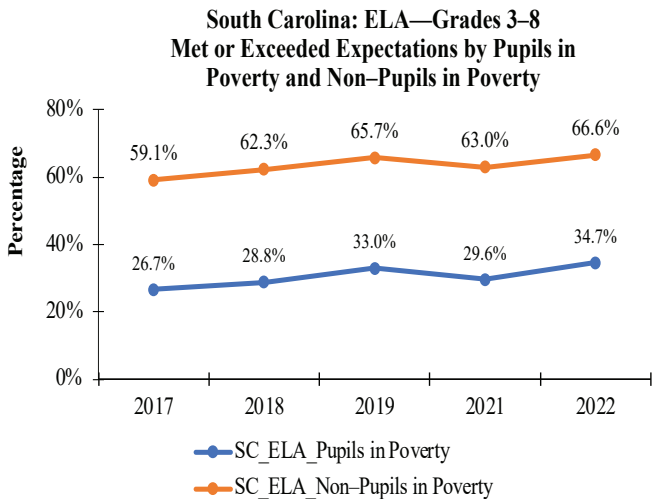


Figure 3.7 SC: ELA—performance of PIP v. NPIP.

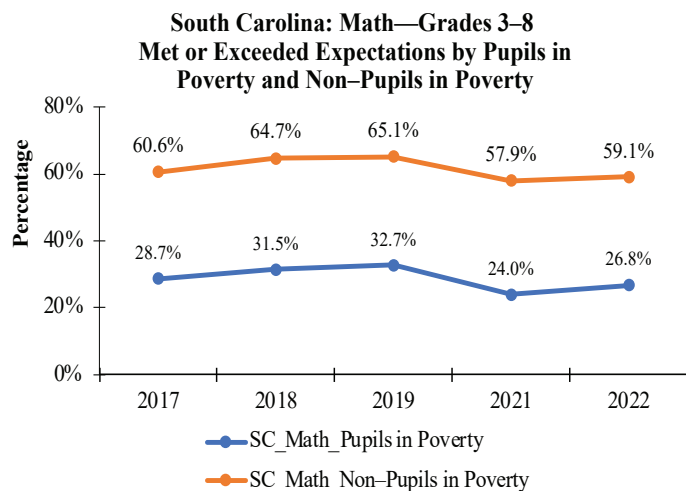


Figure 3.8 SC: Math—performance of PIP v. NPIP.

Source: South Carolina Department of Education



III. Percentage Comparison of Disabled, Limited English Proficient, and Pupils in Poverty, cont.

Charleston County School District: ELA—Grades 3–8
Met or Exceeded Expectations by Disabled
and Not Disabled Students

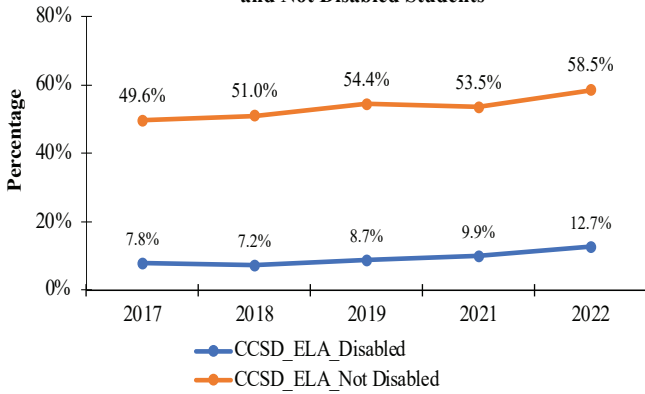


Figure 3.9 CCSD: ELA—performance of SWD v. NSWD.

Charleston County School District: Math—Grades 3–8
Met or Exceeded Expectations by Disabled and Not
Disabled Students

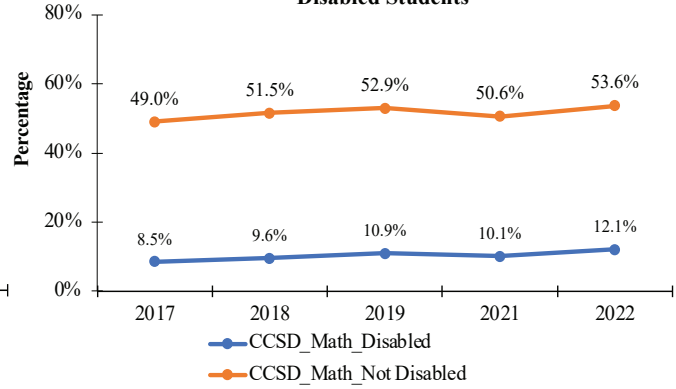


Figure 3.10 CCSD: Math—performance of SWD v. NSWD.

Charleston County School District: ELA—Grades 3–8
Met or Exceeded Expectations by Limited
English Proficient and Non-Limited
English Proficient Students

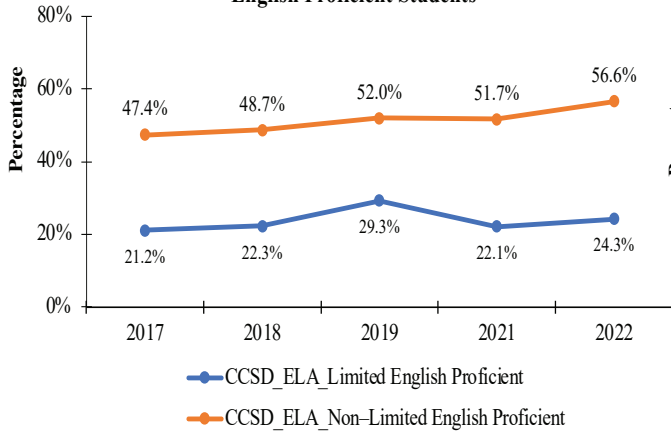


Figure 3.11 CCSD: ELA—performance of LEP v. NLEP.

Charleston County School District: Math—Grades 3–8
Met or Exceeded Expectations by Limited
English Proficient and Non-Limited
English Proficient Students

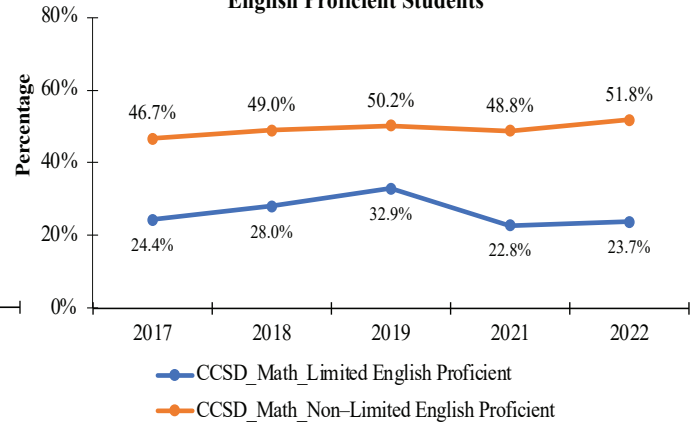


Figure 3.12 CCSD: Math—performance of LEP v. NLEP

Charleston County School District: ELA—Grades 3–8
Met or Exceeded Expectations by Pupils in
Poverty and Non-Pupils in Poverty

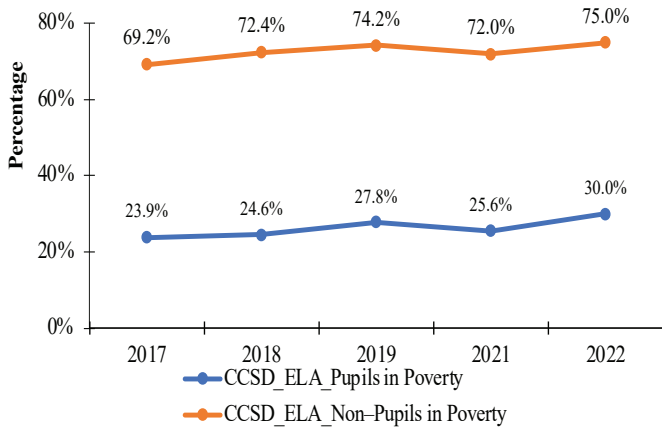


Figure 3.13 CCHS: ELA—performance of PIP v. NPPI.

Charleston County School District: Math—Grades 3–8
Met or Exceeded Expectations by Pupils in
Poverty and Non-Pupils in Poverty

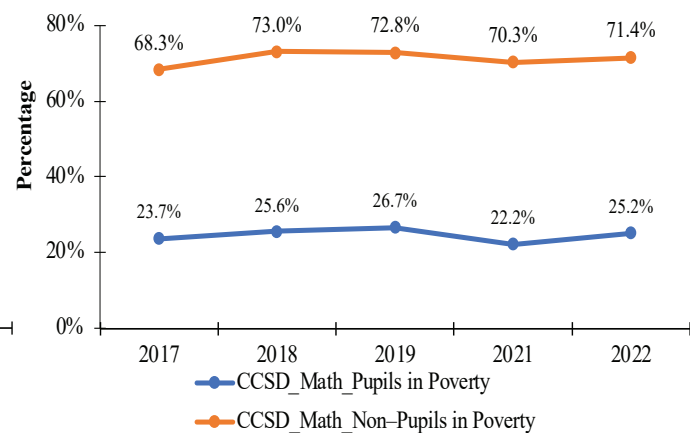


Figure 3.14 CCHS: Math—performance of PIP v. NPPI.

Source: South Carolina Department of Education



III. Percentage Comparison of Disabled, Limited English Proficient, and Pupils in Poverty, cont.

Georgetown County School District: ELA—Grades 3–8
Met or Exceeded Expectations by Disabled
and Not Disabled Students

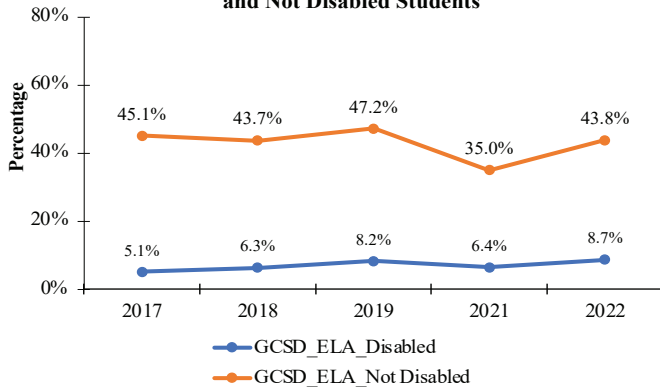


Figure 3.15 GCSCD: ELA—performance of SWD v. NSWD.

Georgetown County School District: Math—Grades 3–8
Met or Exceeded Expectations by Disabled and Not
Disabled Students

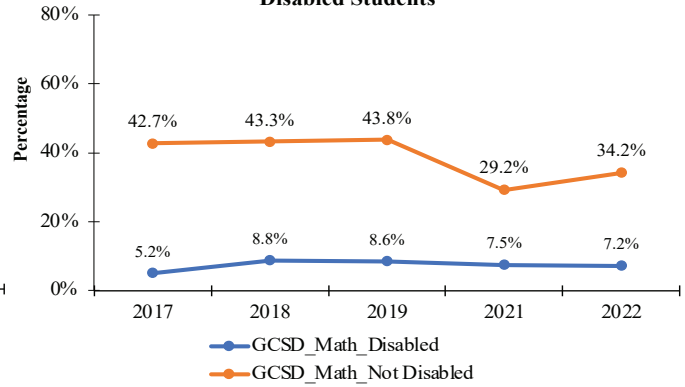


Figure 3.16 GCSCD: Math—performance of SWD v. NSWD.

Georgetown County School District: ELA—Grades 3–8
Met or Exceeded Expectations by Limited
English Proficient and Non-Limited
English Proficient Students

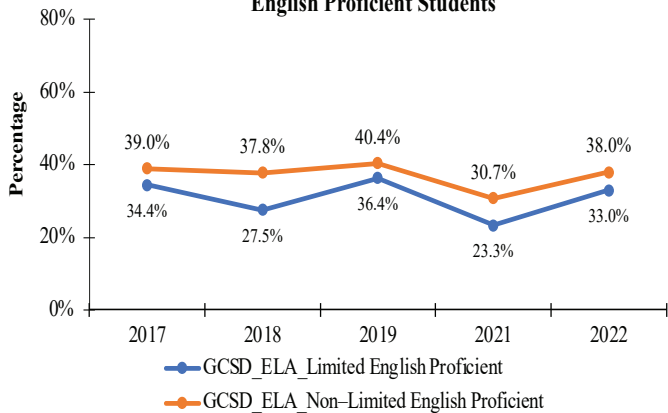


Figure 3.17 GCSCD: ELA—performance of LEP v. NLEP

Georgetown County School District: Math—Grades 3–8
Met or Exceeded Expectations by Limited
English Proficient and Non-Limited
English Proficient Students

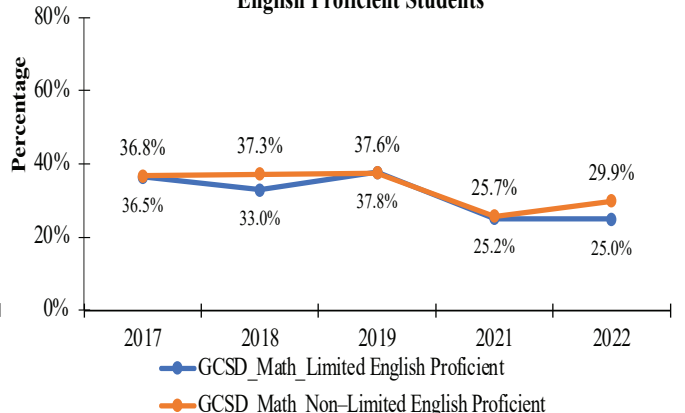


Figure 3.18 GCSCD: Math—performance of LEP v. NLEP.

Georgetown County School District: ELA—Grades 3–8
Met or Exceeded Expectations by Pupils in
Poverty and Non-Pupils in Poverty

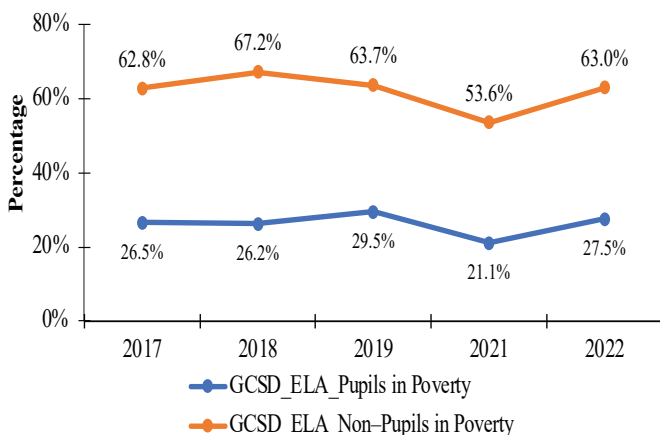


Figure 3.19 GCSCD: ELA—performance of PIP v. NPPI.

Georgetown County School District: Math—Grades 3–8
Met or Exceeded Expectations by Pupils in
Poverty and Non-Pupils in Poverty

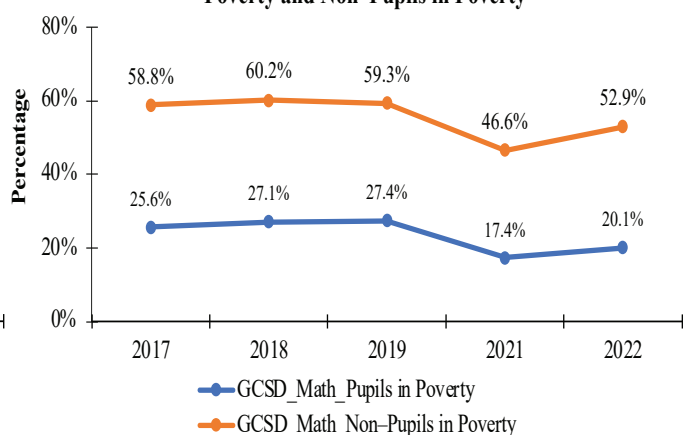


Figure 3.20 GCSCD: Math—performance of PIP v. NPPI.



Source: South Carolina Department of Education

III. Percentage Comparison of Disabled, Limited English Proficient, and Pupils in Poverty, cont.

**Horry County Schools: ELA—Grades 3–8
Met or Exceeded Expectations by Disabled
and Not Disabled Students**

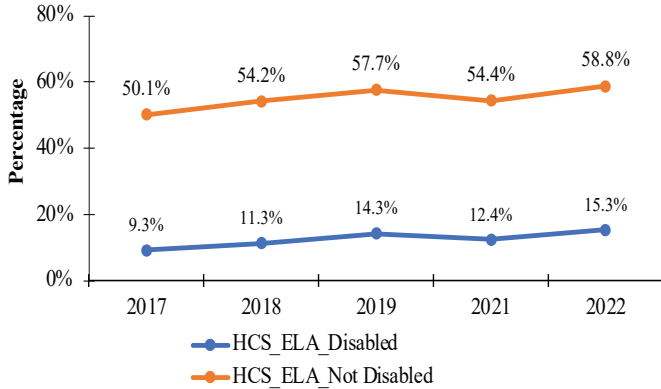


Figure 3.21 HCS: ELA—performance of SWD v. NSWD.

**Horry County Schools: Math—Grades 3–8
Met or Exceeded Expectations by Disabled
and Not Disabled Students**

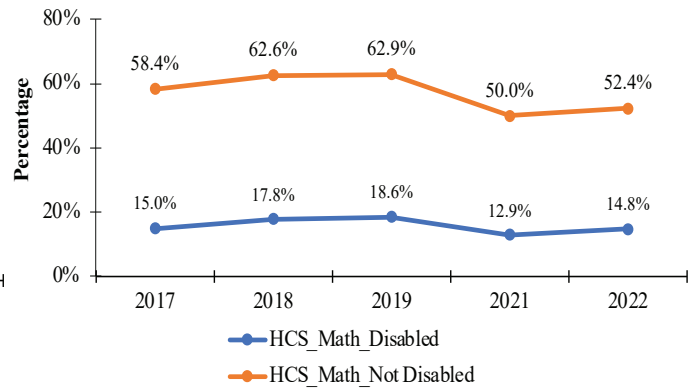


Figure 3.22 HCS: Math—performance of SWD v. NSWD.

**Horry County Schools: ELA—Grades 3–8
Met or Exceeded Expectations by Limited
English Proficient and Non-Limited
English Proficient Students**

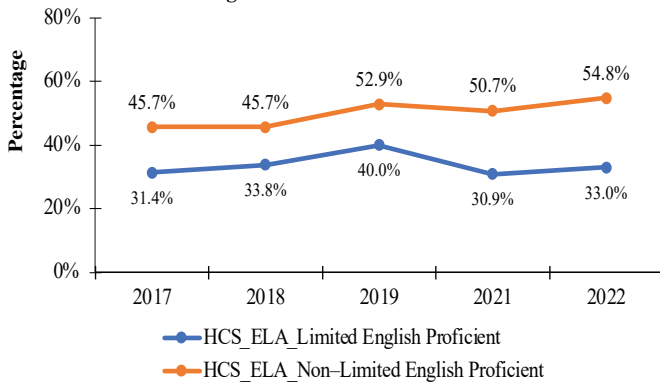


Figure 3.23 HCS: ELA—performance of LEP v. NLEP.

**Horry County Schools: Math—Grades 3–8
Met or Exceeded Expectations by Limited
English Proficient and Non-Limited
English Proficient Students**

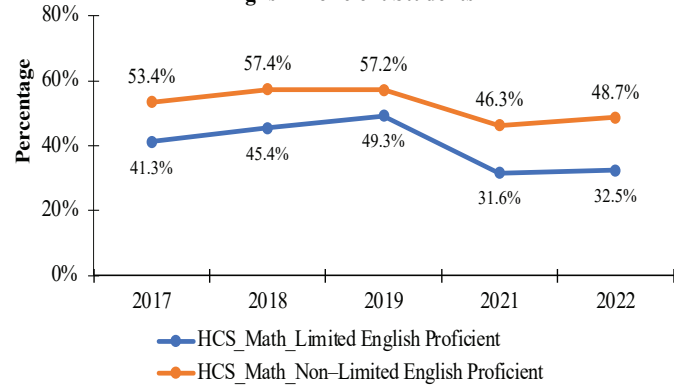


Figure 3.24 HCS: Math—performance of LEP v. NLEP.

**Horry County Schools: ELA—Grades 3–8
Met or Exceeded Expectations by Pupils in
Poverty and Non-Pupils in Poverty**

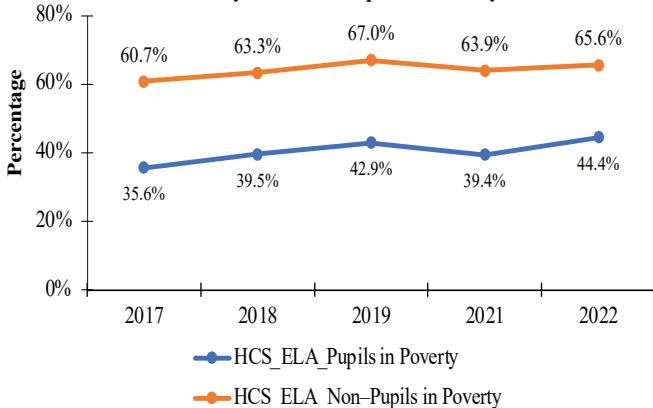


Figure 3.25 HCS: ELA—performance of PIP v. NPIP.

**Horry County Schools: Math—Grades 3–8
Met or Exceeded Expectations by Pupils in
Poverty and Non-Pupils in Poverty**

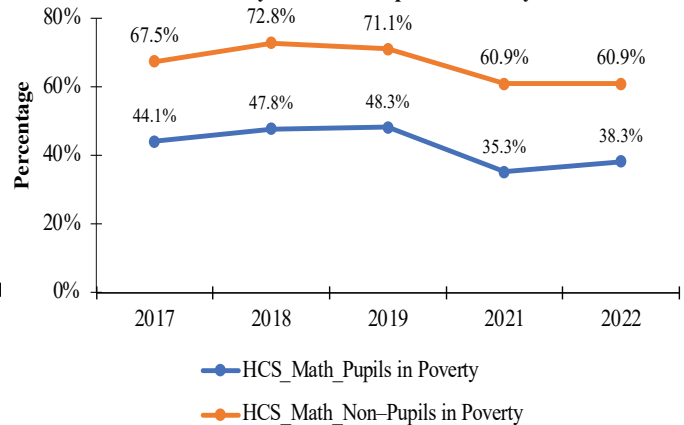


Figure 3.26 HCS: Math—performance of PIP v. NPIP.

Source: South Carolina Department of Education



IV. Comparative Analysis of Grade Average (3–8)

The graphs shown in Figures 4.1–4.5 depict the average of SC READY test scores for grades 3–8 combined. Figure 4.1 shows the average English language arts (ELA) and math performance for South Carolina as a whole, Charleston County School District (CCSD), Georgetown County School District (GCS), and Horry County Schools (HCS) over six years to compare the state and three selected counties for all students, including disabled, pupils living in poverty, limited English proficient, and all other groups designated by SCDE. Figure 4.1–4.5 depict South Carolina as a whole, Figure 4.3 shows CCSD, Figure 4.4 shows GCS, and Figure 4.5 shows the performance of HCS. Figures 4.6–4.13 show yearly performance.

SC, CCSD, GCS, and HCS: ELA and Math
Average of Grades 3–8 for 2017–2022
Met or Exceeded Expectations

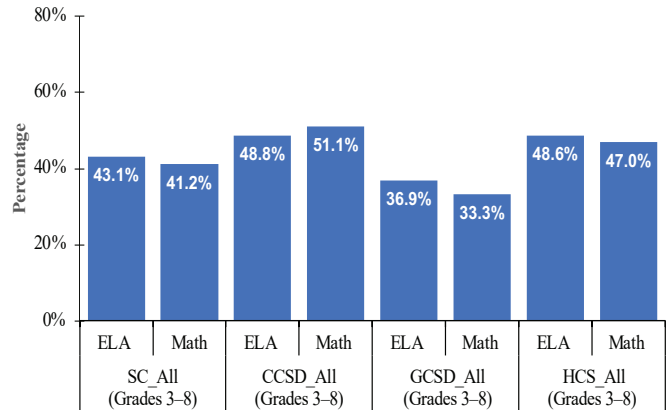


Figure 4.1 SC, CCSD, GCS, and HCS: Grades 3–8; ELA and math performance, 2017–2022.

South Carolina: ELA and Math
Average of Grades 3–8 for 2017–2022
Met or Exceeded Expectations

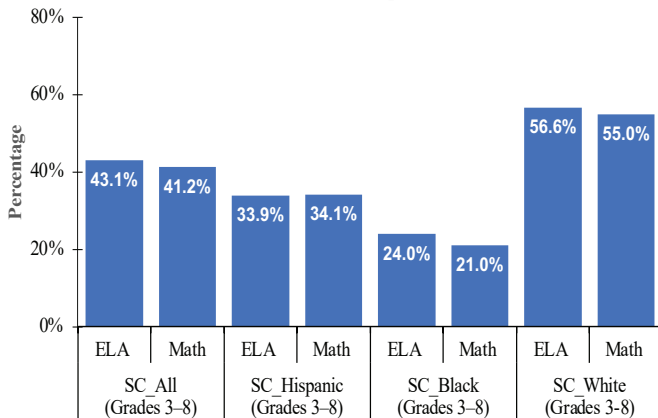


Figure 4.2 SC: Grades 3–8; ELA and math performance, 2017–2022.

Charleston County School District: ELA and Math
Average of Grades 3–8 for 2017–2022
Met or Exceeded Expectations

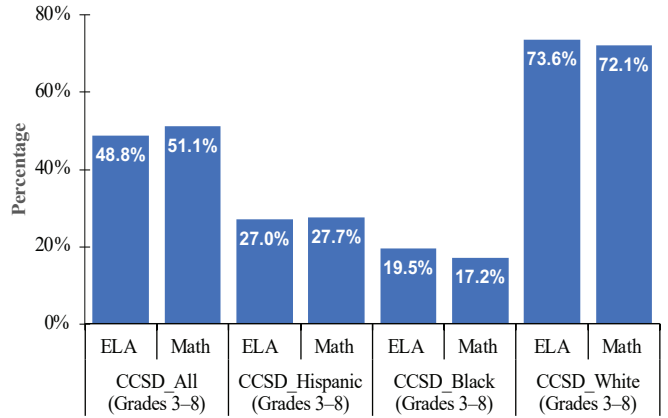


Figure 4.3 CCSD: Grades 3–8; ELA and math performance, 2017–2022.

Georgetown County School District: ELA and Math
Average of Grades 3–8 for 2017–2022
Met or Exceeded Expectations

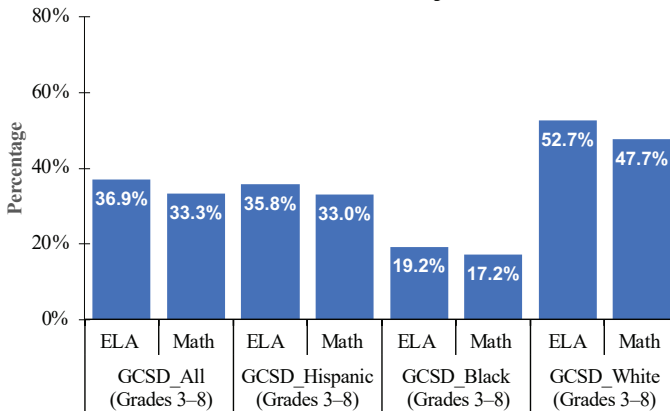


Figure 4.4 GCS: Grades 3–8; ELA and math performance, 2017–2022.

Horry County Schools: ELA and Math
Average of Grades 3–8 for 2017–2022
Met or Exceeded Expectations

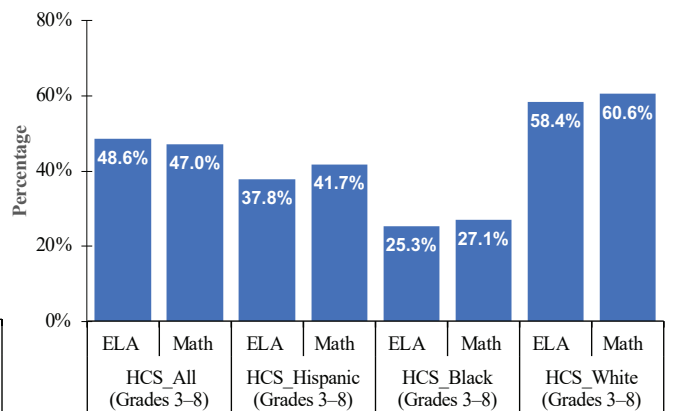


Figure 4.5 HCS: Grades 3–8; ELA and math performance, 2017–2022.

Source: South Carolina Department of Education



IV. Comparative Analysis of Grades Average (3-8), cont.

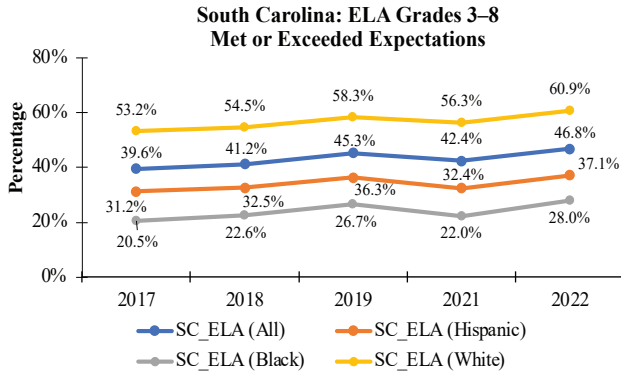


Figure 4.6 SC: ELA grades 3-8 (yearly performance).

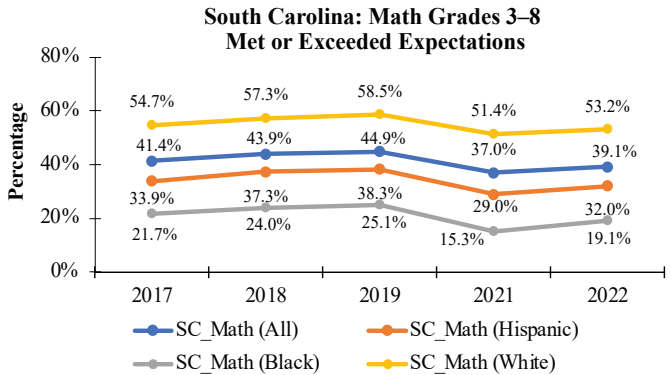


Figure 4.7 SC: Math grades 3-8 (yearly performance).

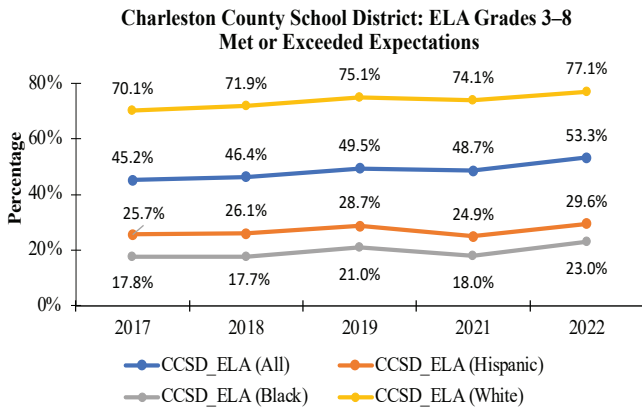


Figure 4.8 CCSD: ELA grades 3-8 (yearly performance)

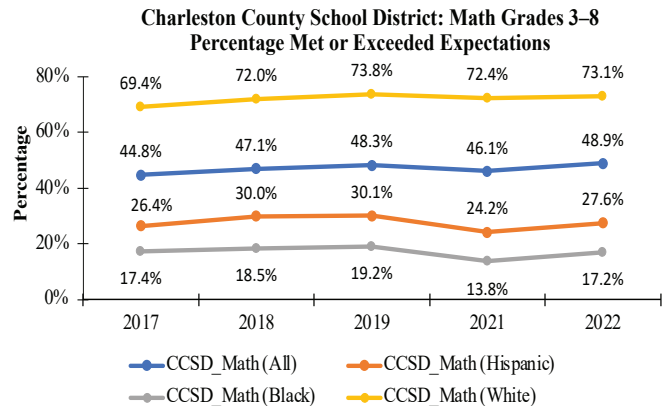


Figure 4.9 CCSD: Math grades 3-8 (yearly performance)

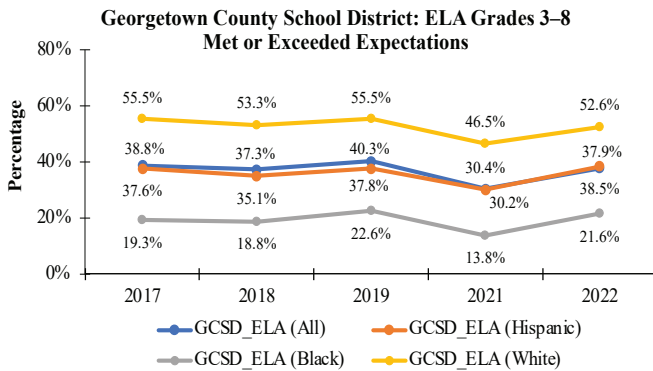


Figure 4.10 GCSD: ELA grade 3-8 (yearly performance).

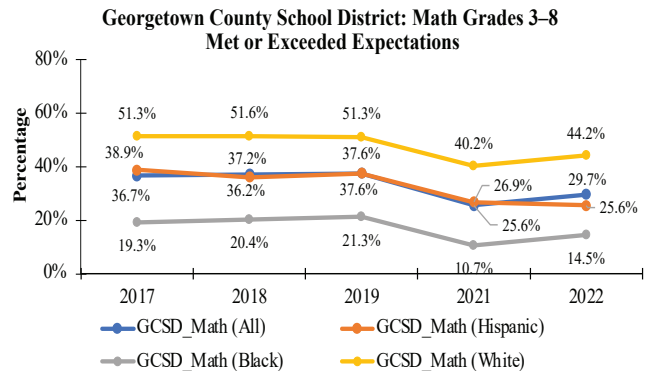


Figure 4.11 GCSD: Math grades 3-8 (yearly performance)

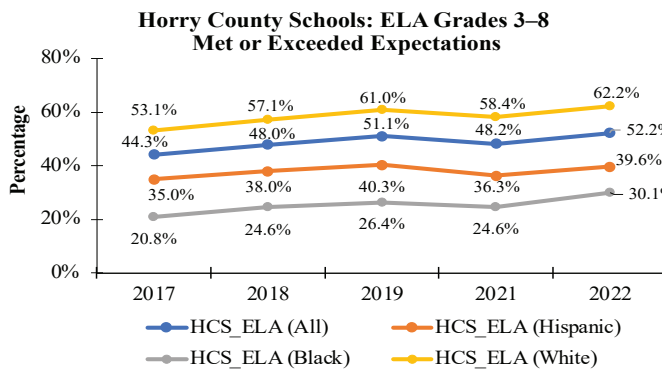


Figure 4.12 HCS: ELA grades 3-8 (yearly performance)

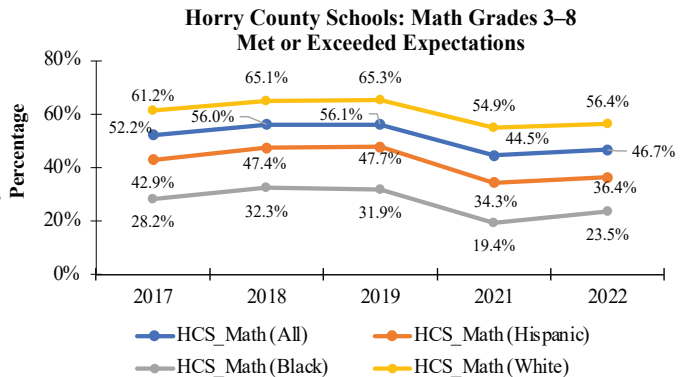


Figure 4.13 HCS: Math grades 3-8 (yearly performance)

Source: South Carolina Department of Education



V. Box and Whisper Plot Analysis Grades (3–8)

The graphs in Figures 5.1–5.7 depict the spread of SC READY test grades 3–8. The graphs are known as box and whisker plots. The box and whisker plots show the distribution of data and skewness by displaying the data quartiles (or percentiles) and averages. The lines extending from the body of the box plot are the whiskers. The rectangular shape is where the lower quartile first quarter (Q1) ends, and the top of the rectangular is where the upper quartile (Q3) begins. The end of the extended lines on both ends indicates the minimum and maximum. The longer the rectangular shape, the more widely the data range is dispersed. There can be outliers beyond the maximum or minimum when a few data points are much larger or smaller than the data distribution. The box and whisker plots shown in the figures are small; therefore, it is difficult to discern where the quartiles and the minimum, maximum, median, and mean are shown. The example in Figure 5.1 is an enlarged copy, as an example, of a box and whisker plot from Figure 5.3, with the year 2019 representing the spread of the data for the Hispanic demographic. To emphasize, the data points shown in Figure 5.3 were computed from data spanning grades 3–8 for each school year. To that end, the purpose of the box and whisker plot was to provide the reader with a quick eyeball view of the spread of met or exceeded performance for the three demographic groups I examined in this report. The box and whisker plot for Black students (Grey rectangular box) in the year 2021 (Figure 5.4) is shorter than the box and whisker rectangular shape for the Hispanic demographic group (Orange) in the year 2021.

The data labels are actual readings from the formation of the box and whisker plot shown in Figure 5.1. Please observe

that quarters are not shown in a theoretical format where everything is equally laid; instead, the construction of the box and whisker plot were computed using real data from SCDE. Please note how small the first quartile (Q1) is compared to the third quartile (Q3). The shorter whisker shown in Figure 5.1 is because the first 25% of the data were clustered closely together.

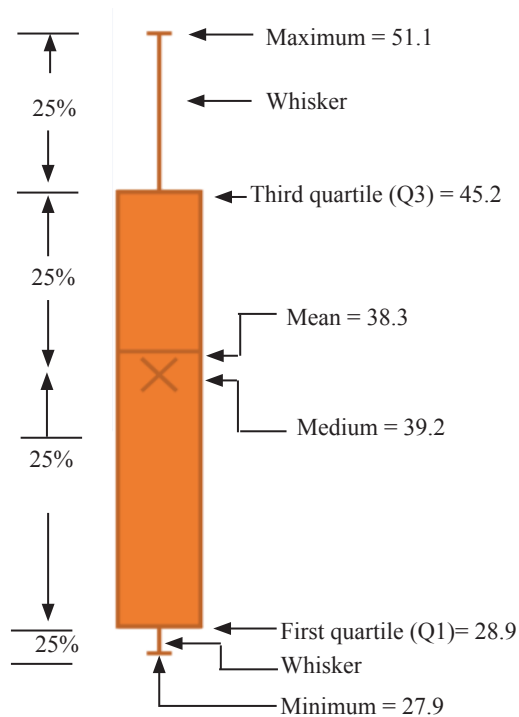


Figure 5.1 An enlarged box and whisker plot with labels extracted from Figure 5.3.

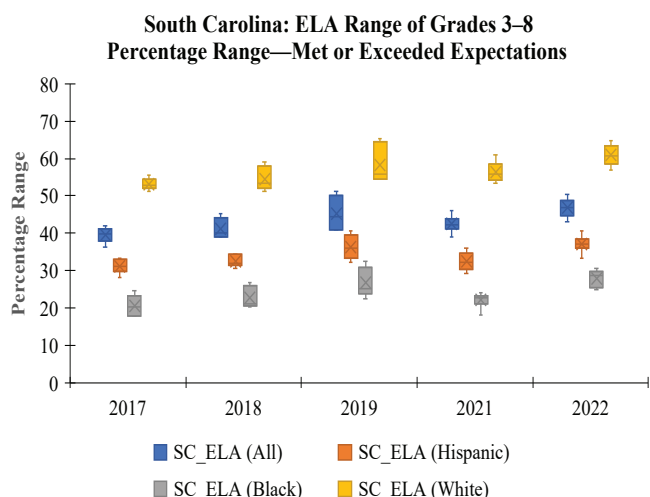


Figure 5.2 SC: ELA range of grades 3–8

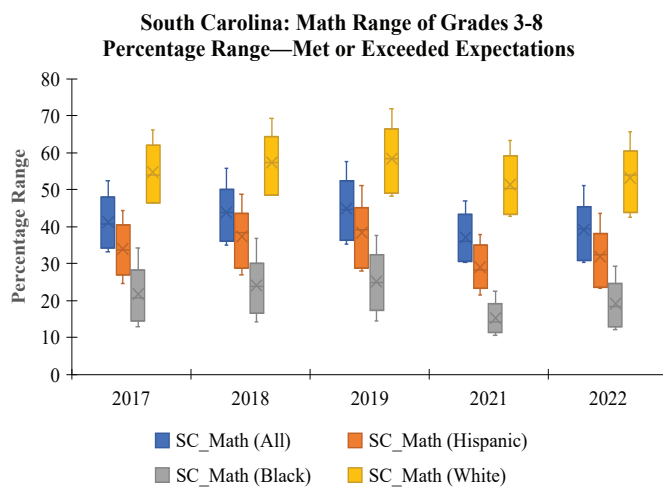


Figure 5.3 SC: Math range of grades 3–8

Source: South Carolina Department of Education



V. Box and Whisper Plot Analysis, cont.

Charleston County School District: ELA Range of Grades 3–8
Percentage Range—Met or Exceeded Expectations

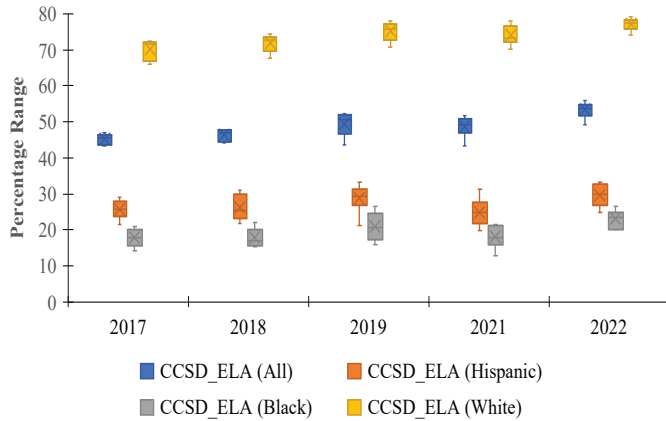


Figure 5.4 CCSD: ELA range of grades 3–8

Charleston County School District: Math Range of Grades 3–8
Percentage Range—Met or Exceeded Expectations

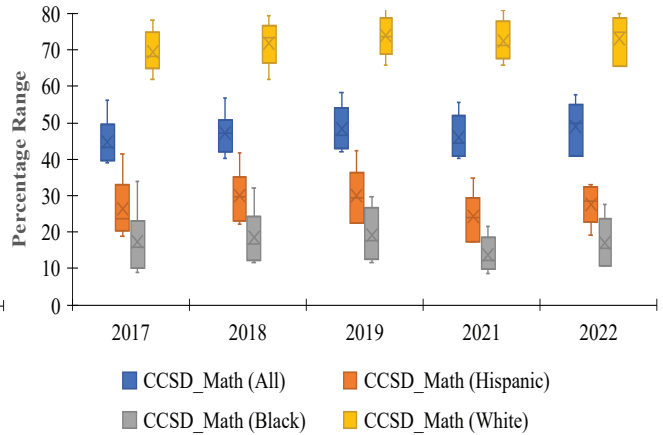


Figure 5.5 CCSD: Math range of grades 3–8

Georgetown County School District: ELA Range of Grades 3–8
Percentage Range—Met or Exceeded Expectations

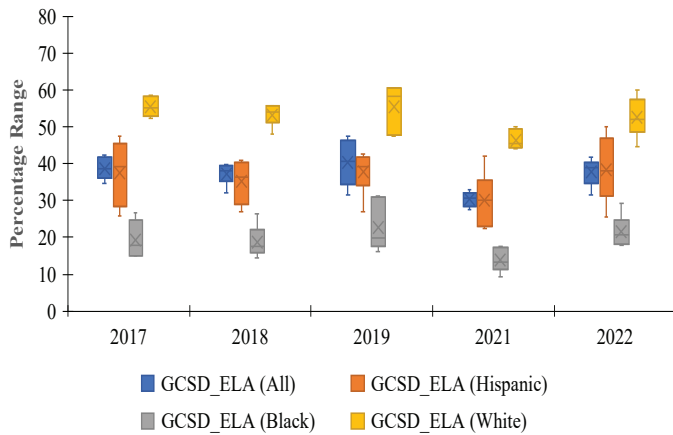


Figure 5.6 GCSD: ELA range of grades 3–8

Georgetown County School District: Math Range of Grades 3–8
Percentage Range—Met or Exceeded Expectations

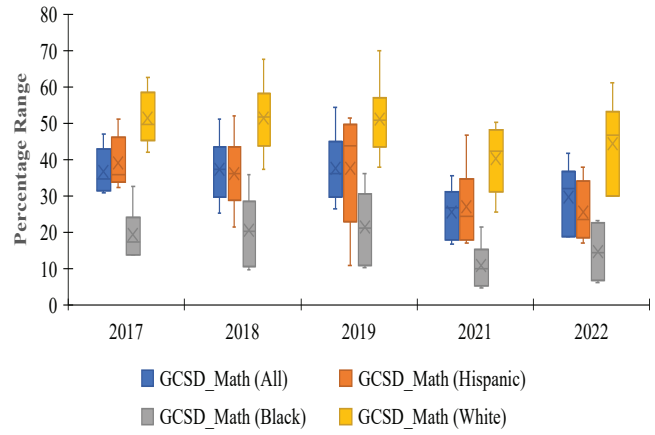


Figure 5.7 GCSD: Math range of grades 3–8

Horry County Schools: ELA Range of Grades 3–8
Percentage Range—Met or Exceeded Expectations

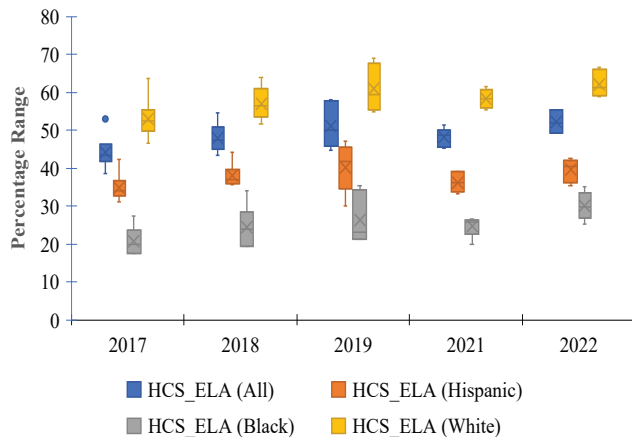


Figure 5.8 HCS: ELA range of grades 3–8

Horry County Schools: Math Range of Grades 3–8
Percentage Range—Met or Exceeded Expectations

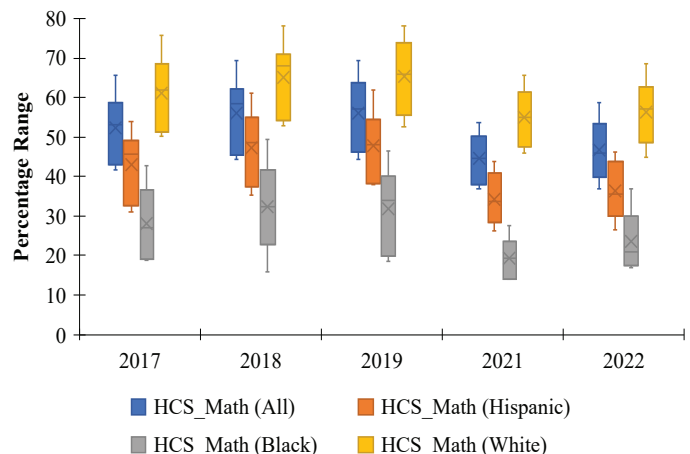


Figure 5.9 HCS: Math range of grades 3–8

Source: South Carolina Department of Education



VI. Comparative Analysis of Grades (3 and 8)

The graphs shown in Figures 6.1–6.10 depict the average of SC READY test scores for grades 3 and 8, combined respectively. I selected these two grade levels because they are the first and last grades tested by SC READY, which is administered to students in grades 3–8.

The graphs on the left side of the page show the performance of grade 3 students, and the graphs on the right side of the page show the performance of grade 8 students (Figures 6.1–6.10). For example, Figure 6.1 shows the performance of grade 3 students, and the graph in Figure 6.2 shows the performance of grade 8 students for the same entities, combined

respectively. In this scenario, the measures are for SC, CCSD, GCSD, and HCS. This arrangement enables the reader to easily compare grades 3 and 8. An example is Figures 6.1 and 6.2, which show HCS grade 3 math performance (56.9%) and grade 8 math performance (40.7%), which equates to a 33.2% better performance by grade 3 over grade 8 students who met or exceeded expectations.

Although I examined only three demographic groups, I based their percentages on the total population tested. Figures 6.1–6.10 show the average over the six years. Figures 6.11–6.26 show the analysis yearly (2017–2022).

SC, CCSD, GCSD, and HCS: ELA and Math Average of Grade 3 for 2017–2022 Met or Exceeded Expectations

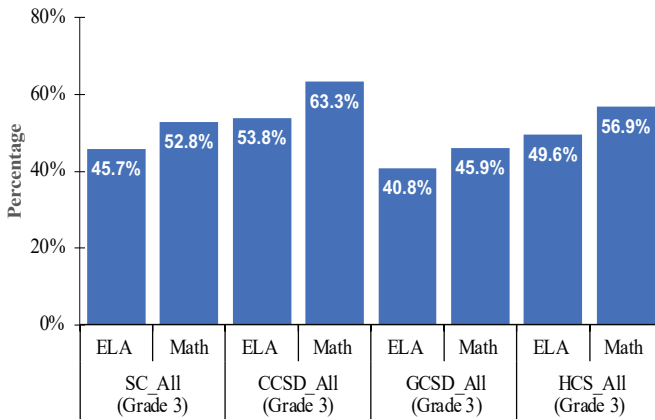


Figure 6.1 SC, CCSD, GCSD, and HCS: Grade 3—ELA and math performance, 2017–2022.

SC, CCSD, GCSD, and HCS: ELA and Math Average of Grade 8 for 2017–2022 Met or Exceeded Expectations

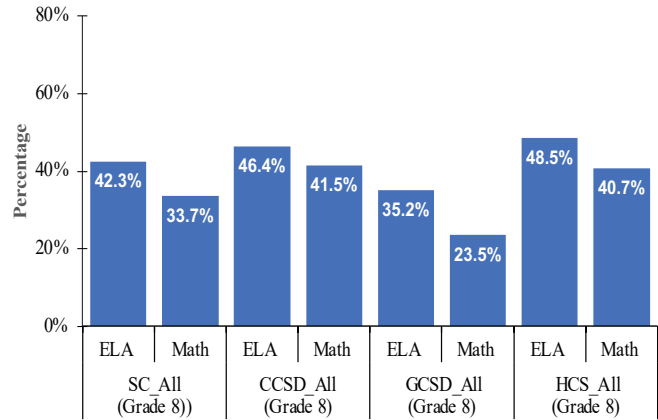


Figure 6.2 SC, CCSD, GCSD, and HCS: Grade 8—ELA and math performance, 2017–2022.

South Carolina: ELA and Math Average of Grade 3 for 2017–2022 Met or Exceeded Expectations

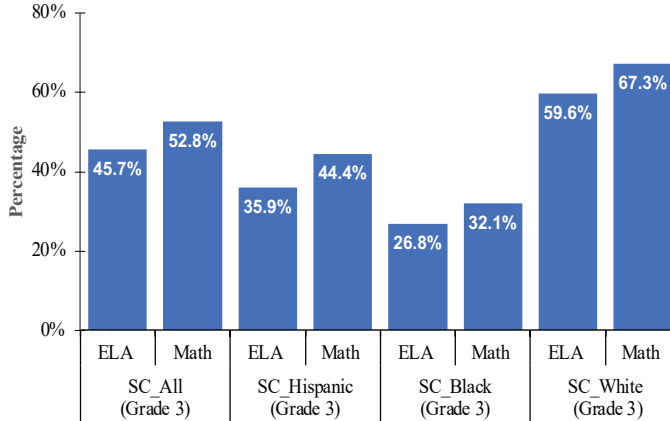


Figure 6.3 SC: Grade 3—ELA and math performance, 2017–2022.

South Carolina: ELA and Math Average of Grade 8 for 2017–2022 Met or Exceeded Expectations

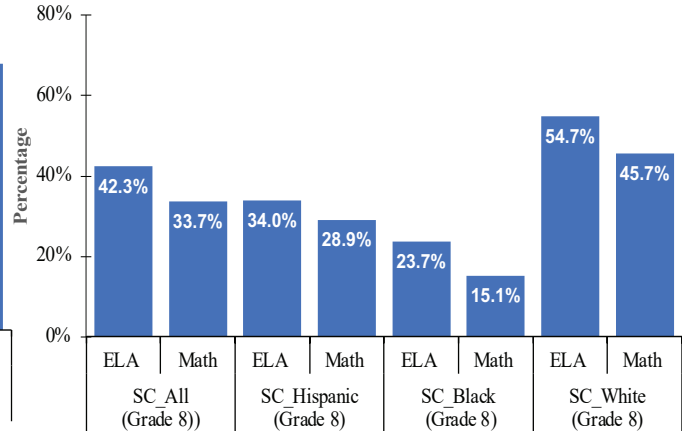


Figure 6.4 SC: Grade 8—ELA and math performance, 2017–2022.



Source: South Carolina Department of Education

VI. Comparative Analysis of Grades (3 and 8), cont.

**Charleston County School District: ELA and Math
Average of Grade 3 for 2017–2022
Met or Exceeded Expectations**

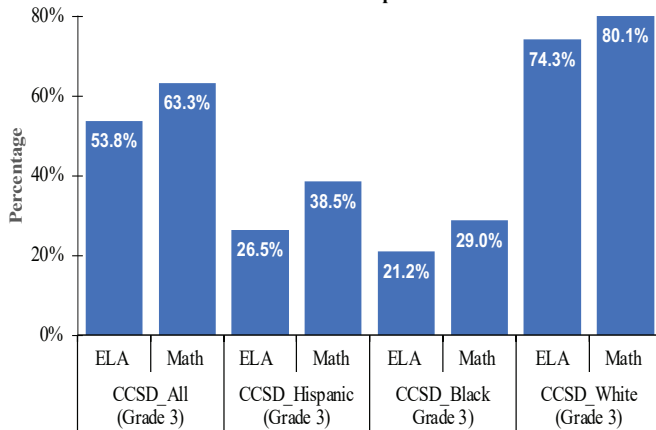


Figure 6.5 CCSD: Grade 3—ELA and math performance, 2017–2022.

**Charleston County School District: ELA and Math
Average of Grade 8 for 2017–2022
Met or Exceeded Expectations**

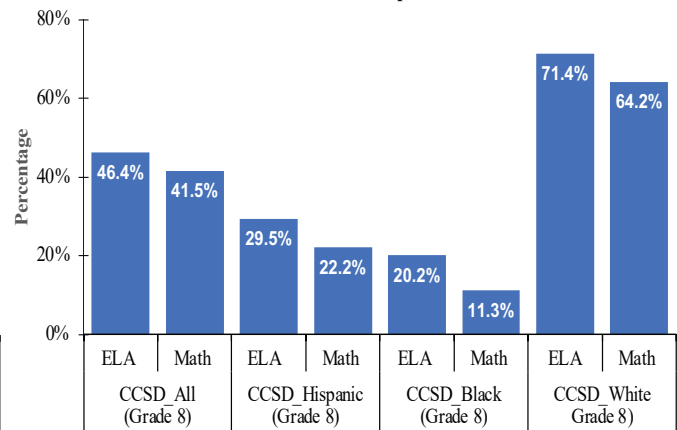


Figure 6.6 CCSD: Grade 8—ELA and math performance, 2017–2022.

**Georgetown County School District: ELA and Math
Average of Grade 3 for 2017–2022
Met or Exceeded Expectations**

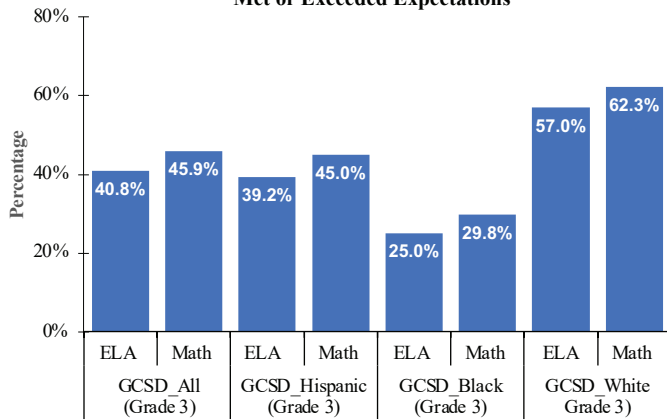


Figure 6.7 GCSD: Grade 3—ELA and math performance, 2017–2022.

**Georgetown County School District: ELA and Math
Average of Grade 8 for 2017–2022
Met or Exceeded Expectations**

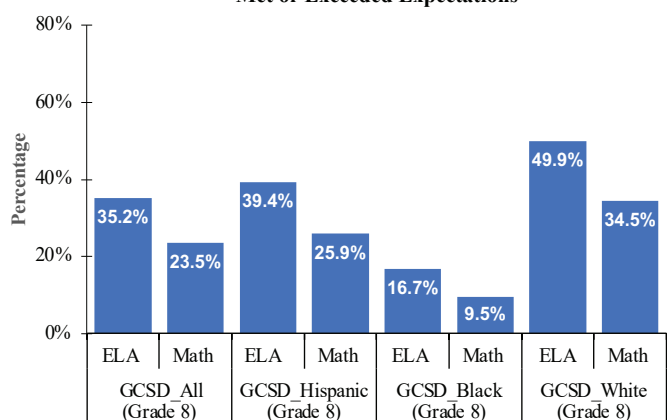


Figure 6.8 GCSD: Grade 8—ELA and math performance, 2017–2022.

**Horry County Schools: ELA and Math
Average of Grade 3 for 2017–2022
Met or Exceeded Expectations**

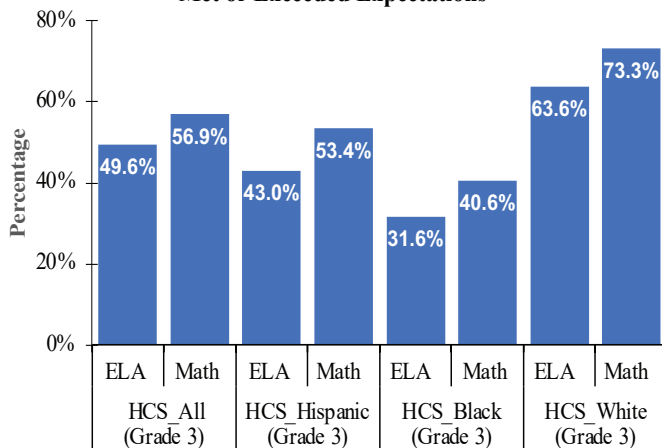


Figure 6.9 HCS: Grade 3—ELA and math performance, 2017–2022.

**Horry County Schools: ELA and Math
Average of Grade 8 for 2017–2022
Met or Exceeded Expectations**

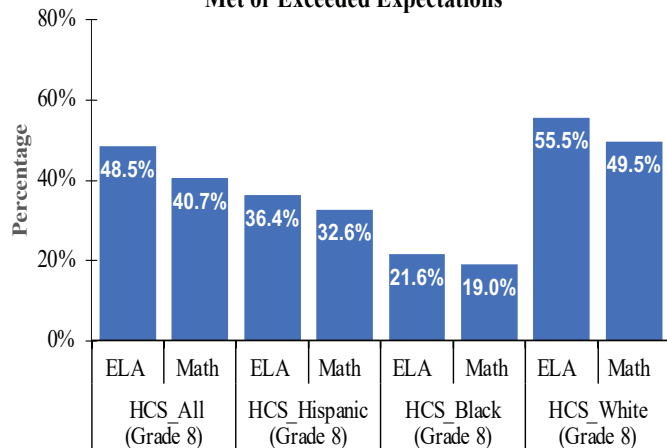


Figure 6.10 HCS: Grade 8—ELA and math performance, 2017–2022.

Source: South Carolina Department of Education



VI. Comparative Analysis of Grades (3 and 8), cont.

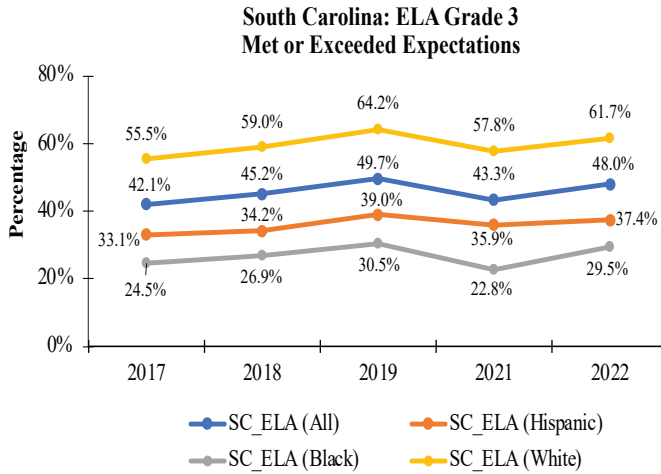


Figure 6.11 SC: ELA grade 3 (yearly performance).

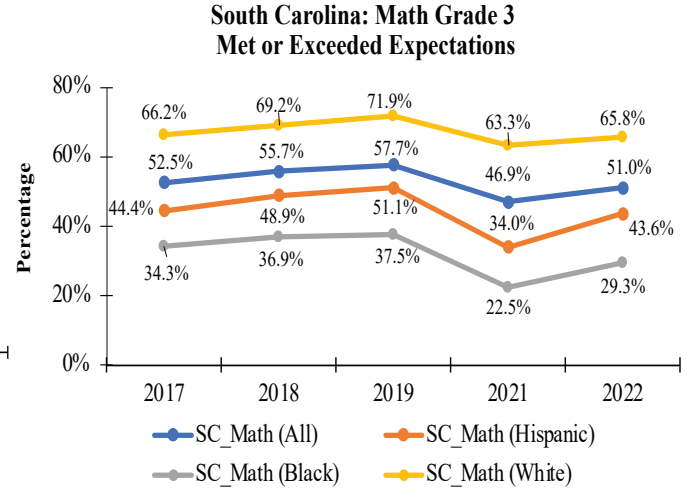


Figure 6.12 SC: Math grade 3 (yearly performance).

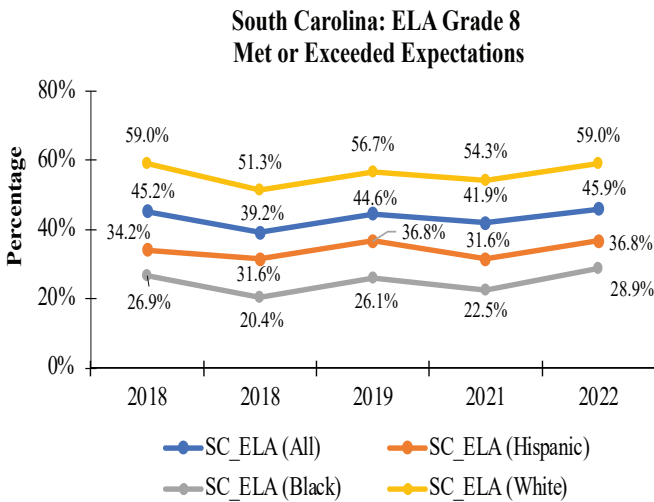


Figure 6.13 SC: ELA grade 8 (yearly performance).

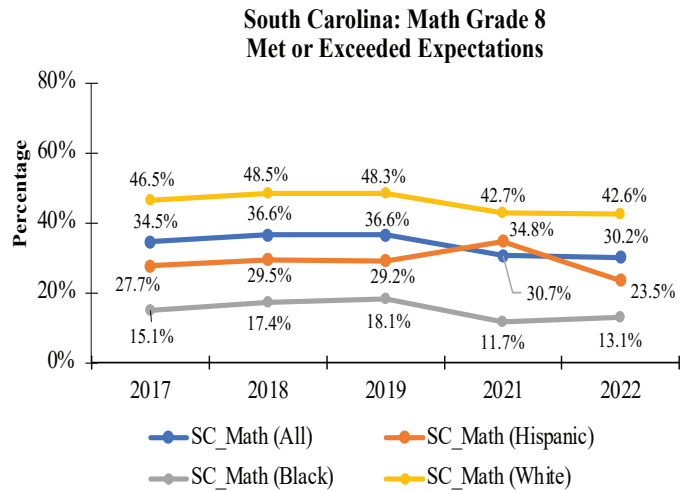


Figure 6.14 SC: Math grade 8 (yearly performance).

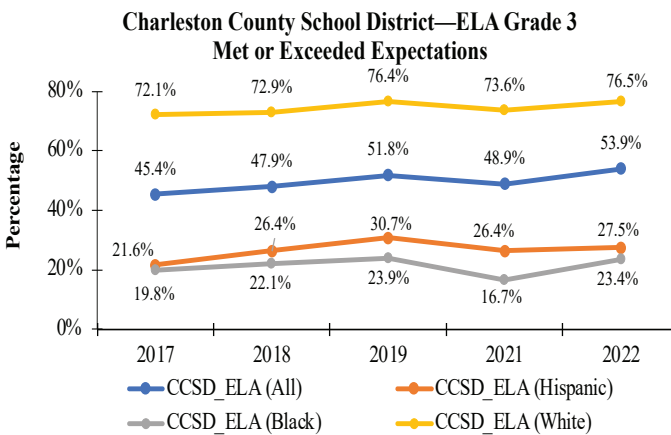


Figure 6.15 CCSD: ELA grade 3 (yearly performance)

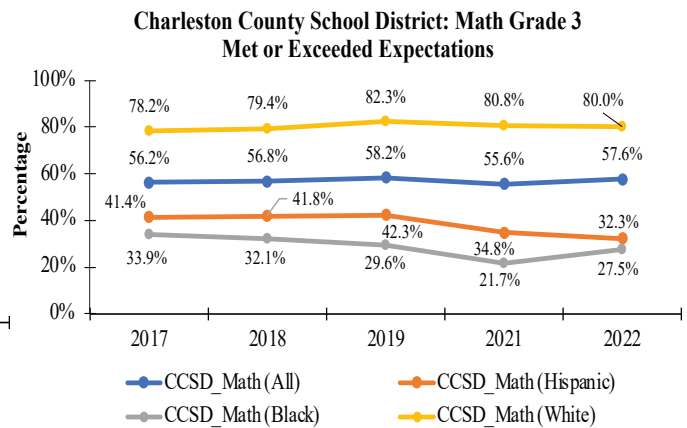


Figure 6.16 CCSD: Math grade 3 (yearly performance)†

Source: South Carolina Department of Education

†The vertical axis (y) on this graph maximum is 100% instead of 80% as shown Figures 6.1–6.15 because this is the only graph of the 14 with a performance value greater than 80%.



VI. Comparative Analysis of Grades (3 and 8), cont.

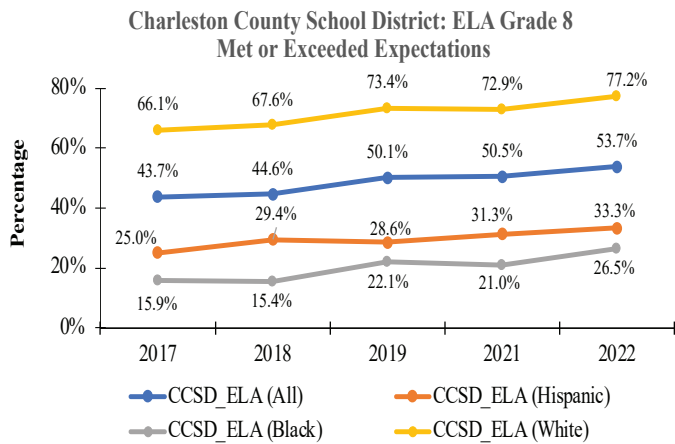


Figure 6.17 CCSD: ELA grade 3 (yearly performance).

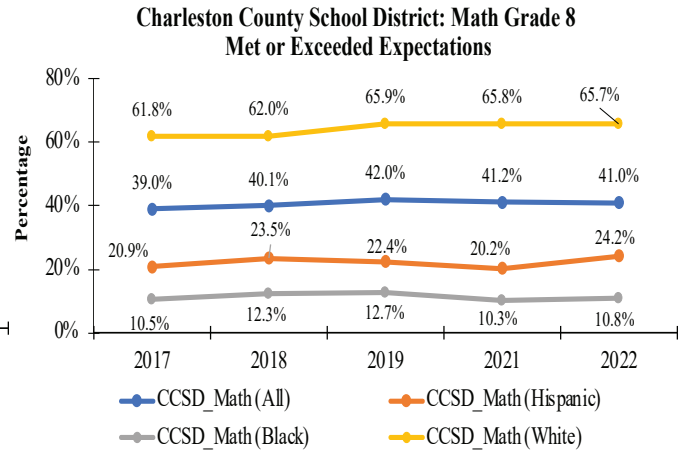


Figure 6.18 CCSD: Math grade 8 (yearly performance)

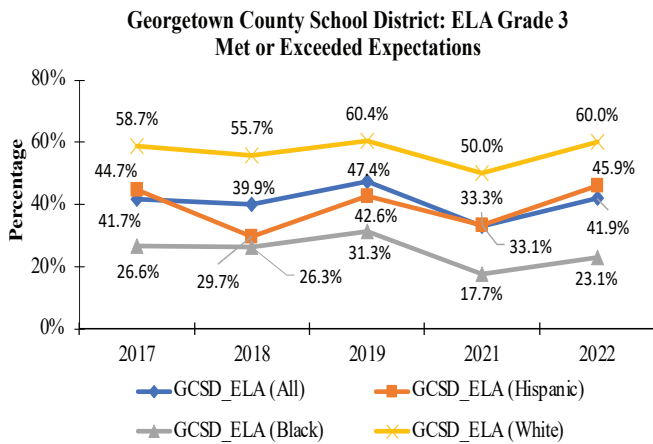


Figure 6.19 GCSGD: ELA grade 3 (yearly performance).

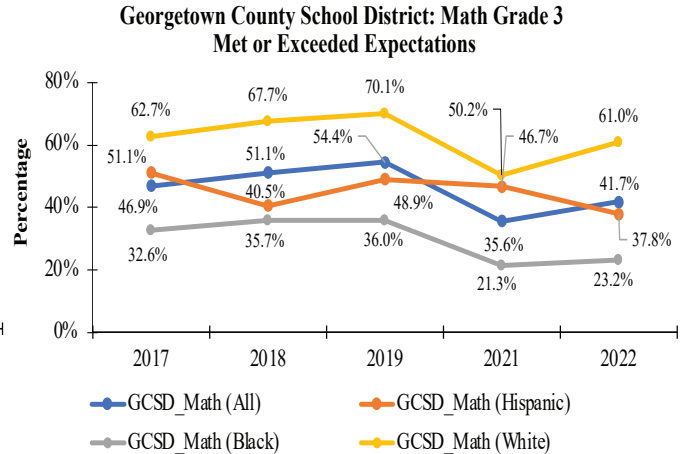


Figure 6.20 GCSGD: Math grade 3 (yearly performance).

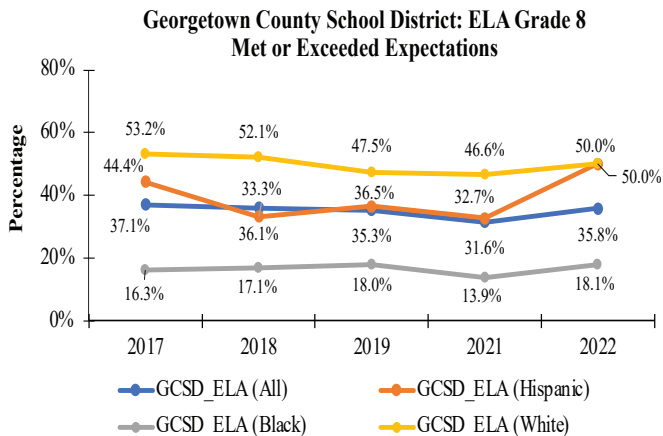


Figure 6.21 GCSGD: ELA grade 8 (yearly performance).

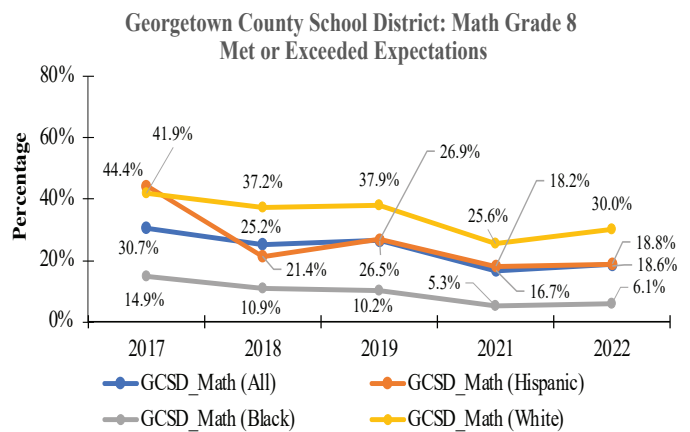


Figure 6.22 GCSGD: Math grade 8 (yearly performance).

Source: South Carolina Department of Education



VI. Comparative Analysis of Grades (3 and 8), cont.

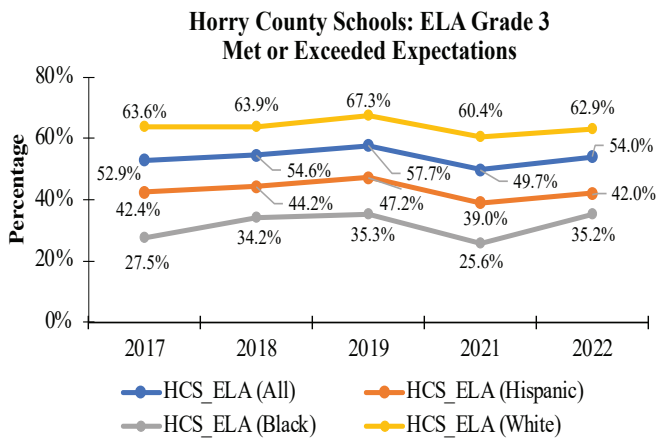


Figure 6.23 HCS: ELA grade 3 (yearly performance).

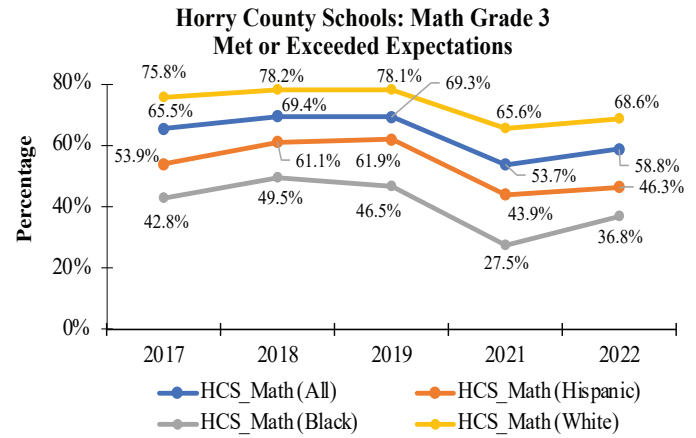


Figure 6.24 HCS: Math grade 3 (yearly performance).

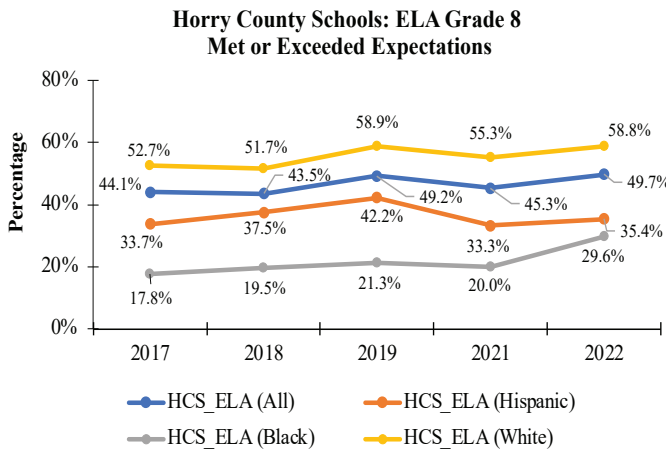


Figure 6.25 HCS: ELA grade 8 (yearly performance).

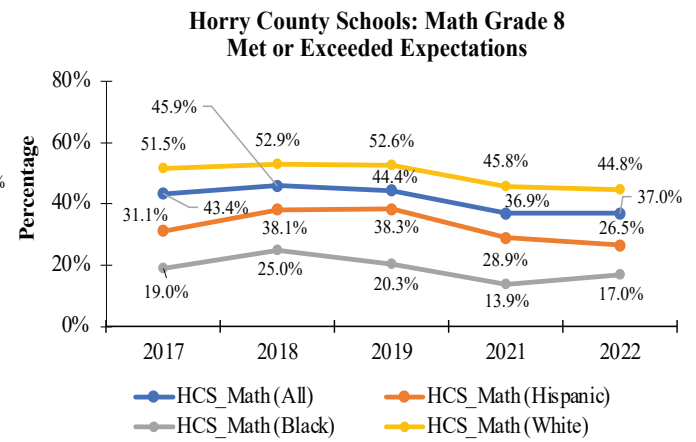


Figure 6.26 HCS: Math grade 8 (yearly performance).

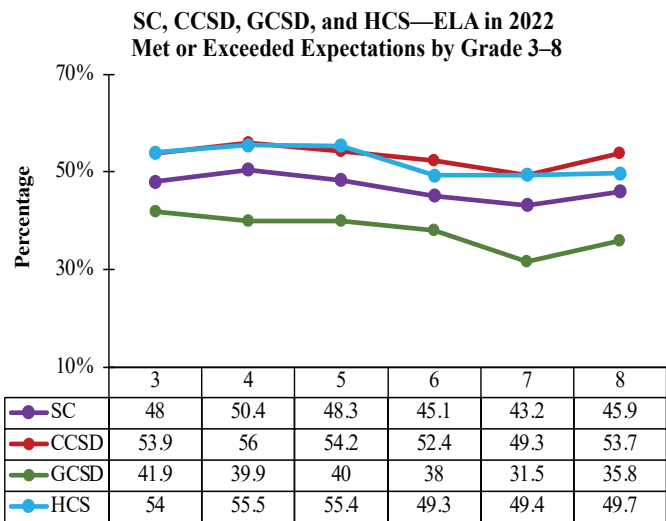


Figure 6.27 ELA performance by grade (3–8) for school year 2021–22.*

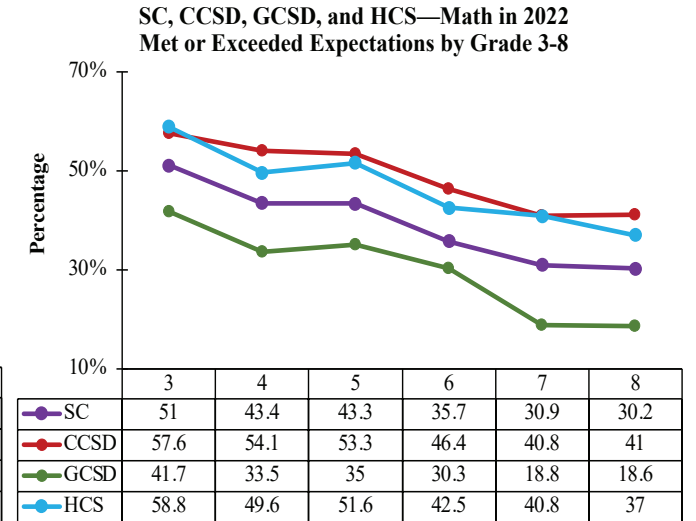


Figure 6.28 Math performance by grade (3–8) for school year 2021–22.*

Source: South Carolina Department of Education

*Grade levels are in top row of table: Grades—3, 4, 5, 6, 7, and 8.



References

South Carolina Department of Education

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Wilson Consulting Services, LLC is a limited liability company that provides consulting in measurement processes, statistical analyses, mathematics education, and family history research.

Our core values are integrity, quality, and customer satisfaction.

Our mission is to provide each client with the most effective and ethical service possible, and to preserve and promote evidence-based decision making for our clients.



Dave Wilson

The Author and Founder/CEO David C. Wilson

David C. Wilson is an electrical and electronics engineer and adjunct math professor—now retired. He is a part-time consultant, statistical practitioner, family history researcher, author, and self-publisher. He and his wife, Beverly, have two sons and six grandchildren. They reside in Conway, South Carolina.

Wilson attended the following former public schools in Horry County, South Carolina: Todd Swamp Colored School, Poplar Elementary School, and Chestnut Consolidated High School. After graduating from high school, Wilson enlisted in the United States Army, where he served in Vietnam, and after his discharge from the army, he pursued a mathematics-centered career. Consequently, Wilson earned his bachelor's and master's degrees in electrical engineering from the City College of New York and Manhattan College, respectively.

Wilson worked in the engineering areas of product development, quality, and reliability for more than 35 years with multinational corporations such as, General Electric, Honeywell, and IBM. He used his expertise in engineering and statistics to improve product performance and drive down cost. He is an IBM retiree. After retiring, Wilson founded and led Wilson Consulting Services, LLC.

During his over 25 years as an adjunct professor—while working in his engineering job—he taught engineering technology, mathematics, and statistics at Dutchess Community College (New York), Quinnipiac University (Connecticut), and Horry Georgetown Technical College (South Carolina). Additionally, he served one year with the prestigious IBM Faculty Loan Program.

A former reader for the College Board/AP Statistics Program and

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In recent years, he has written many statistical papers on the COVID-19 pandemic, population growth, and student performance; helped doctoral students with their dissertations; and authored three family history books. His most recent publication, “A Look at COVID-19 as a Stochastic Virus,” is available here: (https://wilsonconsultingservices.net/wcs_covid-19_stochastic.pdf).

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